UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF OHIO
EASTERN DIVISION

TRAVIS ABBOTT, ET AL.,	)	
	)	
PLAINTIFFS,	)	
	)	
vs.	)	CASE NO. 2:17-CV-00998
	)	
E.I. DUPONT DE NEMOURS AND COMPANY, ET AL.,	)	
	)	
DEFENDANTS.	)	
ANGELA SWARTZ, ET AL.,	)	
	)	
PLAINTIFFS,	)	
	)	
vs.	)	CASE NO. 2:18-CV-00136
	)	
E.I. DUPONT DE NEMOURS AND COMPANY, ET AL.,	)	
	)	
DEFENDANTS.	)	

TRANSCRIPT OF JURY TRIAL PROCEEDINGS - VOLUME 2
BEFORE THE HONORABLE EDMUND A. SARGUS, JR.
UNITED STATES DISTRICT JUDGE
JANUARY 22, 2020; 8:30 A.M.
COLUMBUS, OHIO

Proceedings recorded by mechanical stenography, transcript produced by computer.

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WEDNESDAY MORNING SESSION

JANUARY 22, 2020

- - -

THE COURT: A quick rule. We want to be done here by 8:55 because I want to start with the jurors at nine and that's going to be true every day.

I have three issues, each one of which was raised yesterday as we were closing up for the day.

I want to start with the statute of limitations. I want to hear more about this because, you know, you got my opinion and I can think of two hypotheticals.

One would be you have witnesses who will contradict the plaintiff, for example, and you know asking me to weigh credibility doesn't work on summary judgment. We can have that situation. If it's the same evidence and this is submitted and I grant judgment as a matter of law, I just want to be clear we've tried this to the jury.

I'm going to go back to Old Chief. There's a great quote in that case a syllogism is not a story. I will make sure there's no syllogism here, and I will instruct the jurors that the evidence was insufficient to support that and I'm finding as a matter of law and you will too.

I don't think you want that unless you have a fighting chance here. I need more information. What do you think -- I assumed you would submit everything under Rule 56 that was

appropriate in your motion. What else is there?

MR. BURLINGAME: It will come in partly through the cross-examination of Mr. Abbott, and this is going to be more information that is in some of these newspaper articles linking Mr. Abbott himself in the same newspaper publications where discussion of C-8 occurred.

We also intend, Your Honor, to go deeper into the strong ties of the entire Abbott family to the community, such as, for example, the fact that Roger Abbott, Mr. Abbott's father, has been elected time and again for going on 30 years to the Meigs County school board, that Mr. Abbott himself was a '71 graduate of Meigs High School, that Roger Abbott has attended the football stadium score board every -- well, not every game since --

THE COURT: I got a flavor of that in your motion.

MR. BURLINGAME: Yes, Your Honor.

THE COURT: I see this more in employment cases where the person who's fired says you can't believe the proffered reason but they don't have any direct evidence of it. That usually results in summary judgment in favor of an employer. You know, you can't fight a something with a nothing.

Now, it is true there's language in the jury instructions that jurors aren't to accept bald-faced statements, they can look and draw inferences. You're going to have to have a lot.

In other words, this is what I'm seeing, is we have a plaintiff saying I never knew about this. You don't have anybody who said yes, he did. That doesn't always end it, I agree with you, but it's got to be something to refute something. It can't just be some giant conspiracy theory. So I get your point, and you're asking the jurors to draw inferences. We'll have to see how much quantum of evidence you can produce.

MR. BURLINGAME: I appreciate Your Honor's concern, and I appreciate the clarity. You know, part of this will be cross-examination of their witnesses. There's no question about that, Your Honor.

One of the concerns that I've had is if I don't even get into the statute of limitations in my opening statement, is there going to be any argument that we've somehow waived our ability to present it during the course of this trial?

THE COURT: No. And I will tell you this much. You know, if you want to talk about how you can preserve this, I don't expect you to give this issue up. That was never my point. It's whether you want to try it. I mean, you can preserve it here. But if you want to try it, you know, I hear enough to say, all right, we'll go ahead, I'm going to charge them on it. I'm just going to give them the one sentence definition that's in the opinion I issued about what they're going to have to find or not find.

Anything else on that?

MR. CONLIN: Yes. Your Honor, I'm glad you brought it up because after we left yesterday, we were a bit disturbed, I was, as I was walking back from the courthouse that the implication was that there was some sort of new evidence that was going to be presented in trial.

THE COURT: I didn't hear anything new, right?

MR. BURLINGAME: It's additional evidence, yes, Your Honor.

MR. CONLIN: I have an issue with sitting here today in trial and suddenly hearing there's new evidence that we haven't seen before.

THE COURT: You have a discovery obligation here to tender anything --

MR. BURLINGAME: I do not have a smoking gun that says Mr. Abbott is lying.

THE COURT: Right. I'm assuming there were interrogatories give us everything relevant to these defenses.

MR. BURLINGAME: Your Honor, I'm not affirmatively sitting on any shred of evidence.

THE COURT: These articles you've mentioned, you've seen these?

MR. CONLIN: Well, I thought we had. But I just heard from Mr. Burlingame that we've got new things we're going to talk about.

MR. BURLINGAME: We're going to be pointing to additional things in those articles that have been produced.

THE COURT: The articles have been produced. You're going to use the articles in a different way.

MR. BURLINGAME: And it is our intention to cross-examine Mr. Abbott in front of these jurors and, in all likelihood, subpoena his father if he doesn't show up in their case in chief, and probably mother as well, and put them on the stand in front of the jury and test even further what they have to say.

THE COURT: Okay. Anything else?

MR. CONLIN: The only thing I would say, Your Honor, is these witnesses have been deposed. We have Mr. Abbott, his father Roger. They took his deposition, they asked him about these issues. They talked about his involvement in the school. They did that with Travis. They asked about his father, his involvement in the school. They talked about the times in the papers where here's one where your dad was running for reelection and it's a campaign ad, whatever it was. We've seen all the evidence. It's as Your Honor said, when they filed their Rule 56 motion, they had all this. This isn't anything new. Now it just sounds like they're saying, well, we want to try to reframe what we had that wasn't sufficient before.

THE COURT: I've done more, many, many more summary judgment motions than I've had trials so it's in every single

case in federal court on the civil side.

There's oftentimes -- you can't argue credibility in a Rule 56 motion so I wouldn't expect them to argue that, but a lack of evidence still begets both summary judgment and a Rule 50 motion to dismiss.

I think, given the procedural posture as I explained in the opinion, we're stuck with this so it's a triable issue.

MR. CONLIN: We're just trying to figure out how to put on our case.

THE COURT: There's nothing new, is what I'm hearing. These are witnesses that have been deposed, articles that have been identified. You're going to use them differently than you did in your motion, but there's nothing new in the sense of a surprise.

MR. BURLINGAME: Correct, Your Honor. I'm trying to be very -- I'm thinking through this. I mean, his high school secretary who participated in the global settlement, and I understand the concerns about the global settlement.

THE COURT: That's independent.

MR. BURLINGAME: I think it is, Your Honor, but she's another witness that we likely would subpoena and call live to this trial. But, no, there are no genuine smoking guns, Your Honor, that we're hiding.

THE COURT: I'm going to assume your argument would be why would you pass up money if you knew you about it. I mean,

by the way, that wouldn't have played in the summary judgment either because that's weighing and you don't weigh in a Rule 56.

MR. CONLIN: So here's our thing, Your Honor. We have the Haggy deposition cuts that we weren't intending to play.

THE COURT: Right now it's triable.

MR. BURLINGAME: Right. Your Honor, there's one point I would like to make, though. Yes, we pursued some of this during the depositions, but there's one thing between a discovery deposition, as Your Honor well knows, and where we're going to go with questions on --

THE COURT: Right. But no new documents, no new witnesses. You know, you certainly can rearrange the questioning, how you use the articles. As long as they've all been disclosed, then I'm okay with that.

MR. BURLINGAME: Thank you, Your Honor.

MR. CONLIN: Your Honor, just on that point, if they're going to intend to push this, we likely will -- we're going to need to work out depo designations for Ms. Haggy because we'll probably play that in our case in chief. And, as part of that, she's going to talk about how she knew to tell Travis anyway and how she knew to tell him about this lawyer to contact, and it was about the settlement and it was about her case. You've seen those transcripts.

THE COURT: Well, here's the other -- let's talk about

it. I don't want to spend the whole time on this because we have two other big issues. I'm playing devil's advocate with you, Mr. Burlingame. If I'm on this side, I'm saying there was money on the table. Why would anybody who knew ever leave money on the table? That's an argument.

Okay. The trouble that that's going to create for all of us is the money on the table argument is going to get into the details of the global settlement.

That's your position, right?

MR. CONLIN: Yes, Your Honor. But, I mean, frankly the money on the table argument is the anecdote to any inference they're trying to raise.

THE COURT: Well, no, I get that. That's an argument you can make. That's not precluded in any way. We didn't touch this in the motion and I thought about that, but it goes back to, you know, a judge like me doesn't weigh evidence. That's an inference to be drawn. That's not something that's Rule 56 material.

But I'm just saying they get to flesh out the inference, and that's going to beget -- tell me how you do it.

MR. CONLIN: Well, I think part of how we do it is with Ms. Haggy. She, you know, in the depos --

THE COURT: What was her condition?

MR. CONLIN: Her husband had kidney cancer. So she took off one day to do a deposition and she got time off, but

the record is clear she didn't tell anybody about it. There is nothing in the school records and the rest about why she had the day off.

THE COURT: How much did her husband receive?

MR. CONLIN: In the settlement I don't know the exact number, [redacted]

[redacted]

THE COURT: Would you use that if permitted?

MR. CONLIN: I think we would say -- if we were permitted, we'd say what did you receive. We received over a million dollars. I don't know that we'd give the exact amount because it is a confidential settlement, too. I don't want to have to talk about it, but in the same vein if you come back and say not just this, well, here's all these news articles, you didn't see them and you didn't see a news article that talked about 670 million dollars.

THE COURT: We're running out of time. You're not going to use this in opening.

MR. CONLIN: No, not in opening.

THE COURT: We'll leave this as a thread to be pulled later, all right? Because I want to move on to the other issues.

MR. BURLINGAME: If I don't touch the statute of limitations in opening, I'm not waiving.

THE COURT: Oh, no, I'm not saying you can't. I'm

going to give them. This is one of the triable issues in my preliminary instructions so I'm not precluding either of you from talking about it. You know, I'll leave it to you, but you can certainly say this is one of the things you'll be deciding.

MR. BURLINGAME: Yes, Your Honor. Thank you.

THE COURT: At this point, that's it.

MR. BURLINGAME: Thank you, Your Honor.

THE COURT: One landmine after another here.

The excluded experts on causation, you know, this has come up in every case. The experts have not given opinions on -- at least in most of the cases; I'm thinking really the first cases especially. I let you use your expert whose causation opinion was excluded to critique the methodology used by the plaintiffs' causation expert, but I didn't let you after the motion in limine come back and change their opinion. That's what you're asking to do, it seems to me, and there are disclosures that will be violated, there is basically new opinions for which there hasn't been a chance to do discovery or rebuttal. How can I let that in?

MR. MACE: It's not a change in opinion, Your Honor. Our experts looked at all the causative risk factors for kidney cancer, I'm going to focus on Mrs. Swartz, and they ruled in a number of them, including C-8. They ruled in C-8, they ruled in high blood pressure, they ruled in high BMI, morbid obesity, and they went to the scientific literature and looked at, based

on Mrs. Swartz's facts, what is her amount of increased risk, first, for high blood pressure. More than a 200 percent increased risk because of her decades of high blood pressure. What's her amount of risk of kidney cancer because of the morbid obesity? More than 200 percent.

Then basically it was that there is no scientific literature out there that outweighs that for C-8 and --

THE COURT: But you read my opinion.

MR. MACE: Right.

THE COURT: I basically held you blurred general and specific causation here and you're essentially attacking the C-8 science panel again.

MR. MACE: Right. That's where I was trying to clarify yesterday, Your Honor, that they never ruled out C-8. They went to the next level. They expressly acknowledge I ruled in C-8, I did not rule out C-8. I accept the assumption that C-8's capable of causing this person's cancer. I went beyond that and looked at what were the other risk factors as well. Everything is ruled in. But once you have everything ruled in, then you have to compare them. What's the amount of increase? And there were a substantial amount of increased risks from these other two. There was no scientific literature out there that said that the C-8 amount of exposure overweighed those, was more than that amount, and then they added, Your Honor --

THE COURT: In the opinion, you know, the opinion and the conclusion's been stricken. What you're asking me to let you do is modify it based on the opinion without any chance of rebuttal, more discovery. You know, it's -- and, by the way, this is not a surprise because that's how this has worked in every other case.

MR. MACE: The rest of my point, Your Honor, was to support that one of the other things they did to look at it was the papers that came out from the science panel talk about an overall 10 percent. Not looking at quartiles, not looking at where she falls, and you struck the 10 percent. So that still doesn't take away their opinion that these other things fully explain her kidney cancer.

THE COURT: I think that to a great extent is going to be the critique of the other risk factors ruled out so you can still do that.

Here's what we're going to do. For now these opinions are out. If you want to file something -- and that means in opening, you can be guided by what I just said. If you want to -- I'm not going to do this cold. You're going to have to tell me exactly what you expect the witness to say and why my order didn't exclude it. Do it within 24 hours. These people won't be testifying for at least a week or two.

How about 48 hours to respond?

MR. MACE: Your Honor, I beg you for some relief from

that. The issue was opening, what's going to be said in opening. You made that ruling. We can pull this thread later. Their first live witness tomorrow is Levy who's my witness so I need to focus on that.

THE COURT: File it by the end of the day if you can.

MR. MACE: I think it will be further informed by Margulis, Your Honor.

THE COURT: This is exactly what happened in the other cases, what you're asking me to undue, so this is no surprise to DuPont. All right? So for now you're going to have to file something. I'm not going to do this from what I have in front of me. I don't know exactly what your expert wants to say. I want to see in very specific language what opinion this expert would give if permitted, and you'll have a chance to respond to it.

MR. MACE: My point, Your Honor, on the timing is --

THE COURT: The timing is thanks to DuPont because in all the other cases when the opinions were stricken on causation, they were not allowed to be modified and that happened in every other case. So this is new. This is a self-created surprise if there's a surprise here. That's where we are. We have more to go here.

MR. MACE: But, Your Honor, I would ask until Monday to get you a brief.

THE COURT: All right. Fair enough.

MR. MACE: Thank you, sir.

THE COURT: This is Monday, and you can respond by Wednesday.

MR. CONLIN: That's fine, Your Honor. But, again, just like you said, this isn't a surprise. This is them trying to rewrite their opinion. But that's fine --

THE COURT: I get it.

Okay. The last one, and we're still just talking about opening, has to do with the ability of whether Mr. Abbott had the ability to have children. As I understand, you know obviously we have sperm withdrawn after the first testicle is removed but before the second, and then an attempt to fertilize eggs.

MR. CONLIN: It was actually withdrawn from the first orchiectomy from the tissue.

THE COURT: And certain eggs were fertilized but not able to come to full term.

MR. CONLIN: Right. His sperm successfully fertilized the six eggs. As you go through the process, it ends up with two. It's just what's in the slide you saw yesterday. Those ended up being aneuploid.

MR. BURLINGAME: Your Honor, very quickly. They harvested her eggs, they extracted his sperm. They mechanically fertilized her eggs, some of them. Not all of the eggs took. But fertilization is not synonymous with a viable

embryo. The testimony in this case will be there was never --

THE COURT: Hold on for a second. There's no motion pending on this, first of all, so that's a huge disadvantage on your end. I mean, I don't decide substantive motions like this. This has to do with a lot of possible claimed damages or legally impossible damages, and I'm doing this orally. I don't prefer this. Start with that point. Second point is do you have an expert who is going to say all this?

MR. BURLINGAME: The treating physician. It's in the record. It's in the same deposition that the fertilized eggs were not viable embryos. These eggs were never going to result in a viable pregnancy.

THE COURT: There's no opinion -- this person is not giving opinions, first of all, right? This is a fact witness.

MR. BURLINGAME: The same fact witness he's relying on, Your Honor.

MR. CONLIN: The fact witness is going to say the sperm fertilized the eggs. At some point there's an presumption that there's just presumptions in life that if I'm looking around I can see that if -- that once a woman is able to start to menstruate, that she'll be able to have children. That once a man begins -- or a boy begins to have erection or can ejaculate, that he will be able to have children. And, I mean, this is just presumptions in life. So what they're trying to do is prove a negative. You could never have any

kids unless you prove that you could have kids. That's a little bit ludicrous.

So what we had done here is the fact witness who was the treating medical person says we took his sperm, that the sperm -- this is just the slides we were using in opening. There was nothing abnormal from his sperm as with any other person in that situation, and they fertilized the eggs.

MR. BURLINGAME: Nothing abnormal about his sperm in that situation. In that situation the sperm don't swim. There was no way those sperm were going to naturally impregnate Ms. Abbott.

THE COURT: Without a motion pending, all I can do is hear the evidence. I'll hear from you, but I would start with this. I wouldn't go quite as far as Mr. Conlin. I mean, you can raise interlocutor that someone who loses both testicles can't have children. That's a given. Then the question becomes before that could they have children. That's a little more complicated. But you do have the fertilized eggs, and that seems to me at this point without a formal motion enough to get this in opening statement.

MR. BURLINGAME: Your Honor, I want to be very clear when that comes into opening statement, I will be talking about what I expect the evidence to prove further. So this is --

THE COURT: I get it.

MR. BURLINGAME: I want to be very clear, Your Honor.

THE COURT: I'm not bottling you up, but you can make the argument.

MR. CONLIN: That's fair because, like Mr. Burlingame said, we know what the testimony is, it's in the two depositions and it's going to come in.

MS. LASLEY: Your Honor, there was one issue that was a carryover from yesterday regarding the animation for the opening, if we could just address that quickly where we had the black sheet yesterday.

THE COURT: You have 30 seconds.

MS. LASLEY: This is an animation that was used in the Moody trial with Redlich who was a witness. It wasn't used and it's never been used in opening statement, and Redlich is not listed as a witness.

THE COURT: Is there going to be a witness that goes with this? Let me see it.

MS. LASLEY: So this is just printouts of what the animation looks like.

THE COURT: Give me an idea of what it is.

MR. CONLIN: So what it is, Your Honor --

THE COURT: It's a body and it's digesting.

MR. CONLIN: It's a quote from Reilly, and it follows through the words liver, intestines.

MS. LASLEY: But Reilly is not a doctor, he's an attorney, and he didn't give any kind of specific details as to

how this happens. This animation actually is even different from the -- it's been modified from the animation that Redlich presented in terms of how it goes back and forth back and forth back and forth.

MR. MACE: No witness to support it, Your Honor.

MR. TAPLEY: Your Honor, I would just say the idea of the concept of biopersistence is probably not something that the jury is familiar with. This is a demonstrative aid to help them understand what this concept is, and it comes -- it's supported by a DuPont document.

THE COURT: You're prepared to give the preamble of we believe the evidence will show or words to that effect?

MR. TAPLEY: Of course.

MS. LASLEY: Your Honor, there's no witness for this document. It was created by Redlich, and I don't believe -- I went back and looked, and I don't believe she's anywhere on the list.

THE COURT: It's a demonstrative. You expect there's going to be testimony that will corroborate what this is going to show?

MR. TAPLEY: Absolutely.

THE COURT: I think that's where we leave it.

MS. LASLEY: Thank you, Your Honor.

THE COURT: We'll see you in the courtroom.

(Recess taken at 8:55 a.m. to 9:00 a.m.)

THE DEPUTY CLERK: Case Number 2:17-CV-998, Travis and Julie Abbott vs. E.I. duPont de Nemours and Company and Case Number 2:18-CV-136, Angela and Teddy Swartz vs. E.I. duPont de Nemours and Company.

THE COURT: Good morning, ladies and gentlemen, and welcome back. I welcome you again to jury service.

Our very first task is to have the courtroom deputy administer the jurors' oath to all of you.

So, if you would, Ms. Werner.

(Whereupon the jurors were sworn.)

THE COURT: Now that you've been sworn in, I'm going to give you some preliminary jury instructions that will guide you during your participation in this trial.

As I mentioned to you yesterday, it will be your very important and exclusive duty to decide from the evidence what the facts are. I emphasize you and you alone will be the judges of the facts in this case. You will then apply the facts according to the law as I explain it to you.

As we begin, I'll point out again it's my function to instruct you as to the law which applies in the case, then, of course, from that you'll decide the facts. And you, of course, will also follow the law as given to you as we discussed yesterday.

It's also my function to determine what evidence is admissible for you to consider. That's also part of the law.

But one point I want to emphasize, you'll hear this several times in the course of the trial, nothing that I say or do with regard to the law or any other matter is intended to give you any idea of how you should decide this case. That's up to you and you alone.

The evidence from which you will find the facts in this case will consist of testimony of witnesses, documents and other physical things admitted into evidence, together with any stipulations or facts the parties have agreed to or any instructions I give you regarding certain facts that are not disputed.

I mention this to you because trials are primarily about disputed facts. You'll decide matters on which the parties can't agree. So the law encourages the parties to agree or stipulate to facts if, for nothing else, to not waste your time. So, again, if you get a stipulation, and there will be some in this case, you'll understand why that is.

Most of the exhibits have been pre-admitted. In other words, either the parties haven't objected or I've already admitted them so you'll see a lot of the documents primarily as the case goes forward. It's possible during the trial there will be some exhibits you won't see now because there's a legal dispute whether they're admissible or not, but at the very end of the trial you'll have all of the exhibits with you as you decide this case and debate among yourselves what your verdict

should be.

Now, there are certain things in this case that are not evidence, and I want you to make sure you don't consider them as being part of the facts you'll consider in this case.

You've met the lawyers already. They're all very good.

The one thing you need to know about a lawyer is if a lawyer is a witness in a case, he can't be the attorney in the case.

So what they'll say to you is very important, I don't mean to diminish their role in the slightest, but statements by lawyers are not evidence and cannot be considered by you as evidence. They will elicit or present the evidence to you, but it will be the witnesses who actually give you the evidence that you will determine from which the facts will be decided.

You've watched enough TV shows to know about objections.

First of all, objections themselves are not evidence. If an objection is made and I sustain it, that means that the question can't be answered and you'll ignore the question because it came from a lawyer who is not a witness.

If I overrule the objection, that means the question can be answered and the objection doesn't present any evidence at all, again, because it came from a lawyer.

And understand that lawyers have an obligation to their clients to make objections any time they feel evidence is being offered that is not appropriate.

It's possible you'll hear some evidence in this case that I'll later determine should be excluded. You'll, of course, be guided by that.

And then, most importantly, anything you hear or see outside this courtroom is not evidence for you to consider.

Again, it's important. The parties have prepared this case, they have been required to give the other side their evidence, which means each side has the chance to test that evidence perhaps with other witnesses, perhaps with cross-examination in the trial. If you were to go out and rely on anything not in the courtroom, that process would be defeated because the lawyers would not have a way to counter what you might find if you did, for example, internet searching on this so keep that in mind.

There are also two general types of evidence that you'll consider and decide your verdicts.

The first would be called direct evidence which is very simple to explain. If a witness comes in and says this is what I saw, if you believe that witness, that's direct evidence of the fact.

But you're also entitled to use your common sense and consider what's called circumstantial evidence. That's where you find a conclusion based on a fact. So if someone were to walk in here soaked, it wouldn't be unreasonable to assume it's raining outside.

So you will be allowed to draw inferences as you use your common sense and look at the facts in this case, but I emphasize to you, it will be up to you to decide which witnesses to believe, which witnesses not to believe, and how much of any witness's testimony to accept or reject.

Later in the case I'll give you some ideas about how to evaluate particular witnesses' testimony, but keep in mind this is going to be a very important part of your job because I expect there will be conflicting testimony in this case and you'll make a decision at the end which witnesses to believe.

As you know, this is a civil case. That means the plaintiffs in this case have the burden of proving their claims by the phrase we talked about yesterday, a preponderance of the evidence. That means for the plaintiffs to prevail on the claims it brings against the defendant, the evidence presented by the plaintiff must be more likely true than not. I think a reference was made to a scale. The scales of justice, if we were to use that as an example, the side bearing the burden of proof has to tip the scales however slightly but, nonetheless, they must tip the scales in their favor for you to return a verdict in favor of the plaintiff.

If the plaintiffs fail to meet this burden or if it's exactly equal in your mind, then your verdict must be for the defendant.

And, just as an aside, we talked about this yesterday,

we see more TV shows about criminal cases than civil cases. In a criminal case, the burden of proof is different. There the government must prove the case beyond a reasonable doubt. That's not the standard that applies in a civil case.

To be clear, there are two cases with four plaintiffs; one case involving Mr. and Mrs. Swartz, one involving Mr. and Mrs. Abbott. And this is important. You will decide these cases separately. There will be some testimony that relates to both cases, but particularly when it comes to medical issues, there will be witnesses addressing just one of the two cases.

You are to decide and consider each of these cases separately and on their own merits.

I also mentioned to you that Mrs. Swartz and Mr. Abbott also have claims brought by their spouses known as claims for loss of consortium. These are injuries alleged to have been suffered as a result of injuries to the other spouse.

Now, if you do not find in favor of Mrs. Swartz, for example, you cannot find in favor of her husband's consortium claim. And the same is true with regard to Mrs. Abbott's consortium claim from Mr. Abbott.

Again, later at the end of this case I'll give you much more detailed instructions regarding loss of consortium and other matters. And, again, these are preliminary instructions only. You'll have a long written version of the law in this case before you begin your deliberation.

Now, the claims that are involved in this case arise under Ohio law. The injuries claimed are claiming to have occurred in Ohio. If you are the inquisitive type, you may be wondering why are we trying Ohio state law claims in federal court, and that's a good question. If you go to law school, you'll spend a whole year on this question. Or, on a lighter note, the real question is why did somebody make a federal case out of this. You'll be an expert on that topic when the case is over.

To be clear, the actual language of the Constitution permits this. Article III of the Constitution creates the federal courts, and in that same article, as the country began and as it continues today, federal courts are directed to hear state law cases involving parties from different states, what we call diversity cases, which is why this case is in federal court. But you'll hear a lot of references to Ohio law as you go through this trial.

Yesterday I gave you a brief description of the disputes in this case.

As I mentioned, Mrs. Swartz claims that a chemical known as C-8 was used by DuPont in a chemical plant near Parkersburg, West Virginia which came into her drinking water and, according to Mrs. Swartz, caused her kidney cancer.

Mr. Abbott makes a similar claim and alleges that DuPont caused his testicular cancer.

DuPont denies that either of these cancers was caused by C-8 in the drinking water.

Again, I'm framing the issues up for you. I'm not taking sides and nothing I say is meant to indicate that to you.

Before the trial began, a determination was made that DuPont was negligent in allowing C-8 to enter into the plaintiffs' drinking water. You will accept this finding as established. This issue is not legally in dispute in this trial and, as I mentioned, juries decide disputed issues of fact and negligence is not disputed in this case.

There are other issues that you will decide. Before we turn to those, I instruct you that because DuPont has been found to be negligent is no evidence by itself that it caused the cancers claimed by the plaintiffs. Whether DuPont specifically caused the cancers at issue is a matter you will decide in this case.

So, for the plaintiffs to prevail, they must prove by a preponderance of the evidence that their respective cancers were caused by C-8 and that, as a result, they were both injured.

And, again, if either or both plaintiffs prove this to you by a preponderance of the evidence, you will return a verdict in favor of such plaintiff on that claim.

If they do not, you will return a verdict in favor of

DuPont on this claim.

If either Mrs. Swartz or Mr. Abbott succeed on their claim, you will also determine what amount of money should be awarded on that claim. At the conclusion of the trial, I will give you detailed instructions on the issue of money damages.

That is a very brief summary of the issues on which you will hear evidence. You will also decide the issues as we've just taken them up.

There are two preliminary matters I also bring to your attention as we begin.

Before this trial began DuPont and a representative of the plaintiffs jointly agreed to appoint a three-member science panel who then studied whether there was a probable link between C-8 and testicular cancer and kidney cancer among people exposed to a certain level of C-8 in their water for at least one year.

The scientists on this panel studied a group of individuals who did, in fact, drink for a period of one year or more water with more than .05 parts per billion of C-8.

The science panel determined that, based upon the weight of the available scientific evidence, it is more likely than not that there is a link between exposure to C-8 and kidney and testicular cancer among class members.

The parties in this case do not dispute that if either or both plaintiffs prove they are within the class, and that is

not disputed because they drank water in excess of this amount, then what is called general causation is not a disputed fact for you to decide.

DuPont has reserved the right, however, to dispute what is called specific causation. DuPont contends that, while exposure to C-8 is capable of causing kidney or testicular cancer, it is not probable according to DuPont that in this particular case C-8 actually caused Mrs. Swartz's kidney cancer or Mr. Abbott's testicular cancer.

In a case involving exposure to an allegedly hazardous chemical, the plaintiffs must typically prove by a preponderance of the evidence two issues on causation.

The first is general causation, meaning that, as a scientific matter, the chemical itself can cause the type of injury claimed. That is not in dispute.

What is in dispute is the second type of causation called specific causation, which means that the plaintiff has to prove that the chemical actually caused their specific claimed injury.

Again, jurors decide disputed facts, and general causation is not disputed. What is disputed, again, is specific causation.

Because of what I just mentioned, you may be wondering whether the plaintiffs are the only persons who have filed a drinking water lawsuit or whether others have also brought

legal claims.

I'm asking you, but I'm also instructing you, put that question out of your mind at least until the trial is over.

And I owe you an explanation. Trials are about specific parties; in this case the plaintiffs and DuPont. You're going to hear a lot of testimony about the parties in this case, and you'll decide the case based on what the parties present to you. So whether or not there are other cases has no bearing on how you decide this case. I'll make you a promise when the case is over, we'll meet and any questions you have about that we can discuss, and you won't leave here with a big question mark in your mind.

But, again, the point in every trial is each individual, and that's true for corporations as well, has a right to a trial before a jury just like you, and how other cases might or might not have been filed or handled should not influence your decision. Please keep that in mind.

As a final matter, you'll also be deciding what's called a statute of limitations case only in Mr. Abbott's matter.

The law has a time limit during which a plaintiff is required to file a lawsuit. I'm going to give you just a brief description of the Ohio law about when the period of time is measured. In other words, from that date you have so many years to file a claim.

There are two dates and they're connected by an or, so

either one of these would suffice.

Either the date the plaintiff was informed by competent medical authority that he has an injury that is related to an exposure, or the date on which by exercise of reasonable diligence he should have known that he has an injury related to the exposure.

That's the Ohio law on statute of limitations.

And, finally, if you find in favor of either of the plaintiffs, you will then decide if DuPont acted with malice, meaning conscious disregard for the safety and rights of others.

We mentioned this yesterday briefly.

With regard to this issue of malice, the plaintiffs must meet a higher burden of proof than preponderance of the evidence. They have to meet a higher standard I'll define for you later, but that standard is called clear and convincing evidence.

Again, I emphasize this is a short review of what you'll be hearing in this case, and you'll get a full set of legal instructions at the very end.

I want to spend just a moment talking to you about your conduct as jurors. You've heard some of this already, but I instruct you that during the trial you are not to discuss this case with anyone or permit anyone else to discuss it with you. Until you retire to the jury room at the end of this case to

discuss your verdicts, you are simply not to talk to anyone, including other jurors. This can be awkward. I've mentioned do not speak to any of the attorneys, witnesses or parties in this case as you see them in the hall. We'll be in this trial for a number of days, as you know. You'll probably see them from time to time. Do not speak to them.

Second, and this also is very important. Do not listen to or read anything touching on this case. There could be newspaper, television, radio reports, online articles or stories. You are instructed not to read or listen to such accounts. I mentioned to you yesterday it's not because I assume they're inaccurate, but the rules of evidence that apply in this court do not necessarily apply in journalists' stories about what is taking place. Third, do not do any research of your own about this case. I'm going to guess a lot of you -- all of you, actually, are very conscientious. If we were taking a class together and you were to go home and do independent research, that would be a good thing. Not so in a jury trial.

And, again, this is worth emphasizing and repeating.

This case has been worked up and, under our law in a civil case, the parties are able to discover, is the word we use, find out what evidence the other side has and they can test that. They can try to find witnesses to oppose it. They can cross-examine the witnesses giving testimony harmful to

their side. Nobody just testifies cold and as a surprise to the other side.

If you go do your own research, the parties would have no idea what you found. If anybody uses the internet, you can find some great things on the internet, you can find some things that might be challengeable, but only if the other side or the parties knew you found it. If they didn't know that, this process would be destroyed. So there's a reason why I'm telling you don't go do your own research in this case, again, because the parties have the right that this case be decided on the evidence presented in court.

And the last rule, which we've already talked about as well, no social media posts. Do not put anything on Facebook, Twitter, Snapchat, LinkedIn, MySpace, anything of that sort while the case is going. After your verdict you'll be free to talk about this or not talk about it. That will be entirely up to you. But, again, you are the judges in this case, the judges of the facts but you are judges, and you need to be not just fair, but you have to appear to be fair at all times.

You'll notice you've been provided with notepads. You are welcome, if you wish, to take notes during the trial. Just a couple cautionary remarks. You're not required to take notes. Make sure as you're writing notes down, you don't miss testimony. You should assume that you'll hear the testimony only once and not be able to hear a repeat or to get

transcripts of the testimony so be careful the note taking doesn't interfere with your listening. We'll collect the notes at the end of each day of the trial and keep them secure. No one will read them. At the end of the trial I'll instruct you, as I do now, these notes are to refresh your recollection and help you remember the evidence. They are not to be used by anyone else because each of you is given the obligation of deciding this case on your own memory of the testimony.

I'm going to give a little pitch to jury service. The lawyers mentioned yesterday a point that I want to reemphasize. I don't think I can ever remember -- most people aren't excited as the jury trial starts. You aren't here voluntarily, and we appreciate that. But I think you're going to find this to be an experience that you will remember. We oftentimes have judges from other countries come into court and watch part of the trial because very few countries have the jury system. I'll tell you at the end, but I'll clue you in now, you have to be unanimous. You look around, you're a very diverse group of jurors, different backgrounds, different cities in this district, and the fact that all of you have to agree is what really makes the system, I think, so much better than a single judge deciding the case, or even three judges as many countries do. So I hope you can take a little bit of pride in the role you're about to play.

We're about to begin the case. We're going to begin

with what is called opening statements. This will be a time for the lawyers to explain to you how they think this trial is going to go, a preview of what the witnesses might say, and basically how they think the case could result.

Once that is done we'll get to the actual evidence in the case. The plaintiff has the burden of proof so the plaintiff goes first. Every time a witness is called by the plaintiff, the defense will have the right to cross-examine them and bring to you maybe a differing point of view from the same witness.

Once the plaintiffs' witnesses are concluded, then the defendants will have the opportunity to present witnesses and, likewise, the plaintiffs will have the chance to cross-examine.

It's possible there will be some rebuttal in the case, meaning that each side may call some additional witnesses.

I also want to talk to you about schedule. As you know, this is a lengthy trial. I promised you at the beginning we would waste as little of your time -- we won't waste any of your time, hopefully, but what we want to do is minimize the amount of time.

So this has been my experience. If we start 10 minutes late tomorrow, 10 minutes late the day after, lunch takes an hour and 15 minutes instead of an hour, we can turn a 20-day trial into a 28-day trial, and none of us want that. So just to be clear, if one of you is late, we can't start until you're

all here. That's true for me, too. I'm lecturing everybody in the courtroom. We can't start without the attorneys or the parties so everybody needs to be on time because all of us are depending on everybody else to be on time.

Again, to reiterate, we'll start at 9 o'clock every morning. We'll take a 15 minute break in the morning, 15 minute break in the afternoon and an hour for lunch, and we'll finish up at five. And we'll be doing four-day weeks and I'll give you the schedule, but you can assume we're going to go four days this week and Monday through Thursday next week.

So with that, we are ready to begin.

Each side, again, will present opening statement, and we'll begin with Mr. Conlin.

MR. LONG: Your Honor, may we have a sidebar?

THE COURT: If you would like to stand while we have a sidebar. By the way, you will notice there's no jazz in this courtroom. It's white noise.

(The following proceeding was held at sidebar.)

THE COURT: All right.

MR. LONG: During the instructions, the Court, you were just going through it pretty fast, but my notes indicated that when you defined malice, it was conscious disregard of the safety of others. We'd ask the Court to correct that, if we could. It's conscious disregard of a high probability of substantial harm, and we'd ask the Court, if he could, to give

that instruction as opposed to the instruction that was previously given.

MR. CONLIN: Your Honor, for the plaintiffs we thought your instruction was correct. It was sufficient and was consistent with the instructions you've given at previous trials.

THE COURT: Well, I don't want to give an erroneous instruction. I told them this is not the final instruction, but I don't want to rely just on that. Why don't you each submit -- if you've submitted proposed jury instructions on this, let me take a look at those.

MR. LONG: Our concern, for the record, is that that gives a first impression to this jury that what --

THE COURT: Hang on just one second.

MR. MACE: Thank you, Your Honor.

MS. BARRICK: These are the final jury instructions. I think I gave him a copy as well. Is it in there, Damond? I gave them the same thing I gave you, Judge. These are their proposed instructions on that, and I think the plaintiffs had proposed what we gave before, what you gave before.

THE COURT: I don't think it's in here.

Here it is. Actual malice. It's page 38.

MR. MACE: Thank you, Judge.

MR. CONLIN: Thank you.

MS. BARRICK: That's what he gave in the other trials,

what he put down there.

THE COURT: Look, I'm looking at DuPont's version. Conscious disregard for the rights and safety of other persons. That's exactly what I said.

MR. MACE: No, we had -- it was combined.

THE COURT: I'm not going to give the full instruction so I'm satisfied. Thank you.

MR. LONG: Okay.

(The following proceedings were had in open court.)

THE COURT: So one of you has a seating problem, correct? Can you hold on until the next break? What I'm thinking is there's a -- we can put a fixed chair at the end of the row. Would that work?

A JUROR: Yes.

THE COURT: Maybe we can borrow one. Mr. Conlin, if we could maybe move that chair. I'm going to put the lawyers to work here. And then you can move to the end of the row. Let's see if that works for you.

Thank you. How is that?

A JUROR: Good.

THE COURT: All right. Mr. Conlin, whenever you're ready, you may proceed.

MR. CONLIN: Thank you, Your Honor.

May it please the Court.

Good morning. It's good to see you all again. I'm

going to start with where I ended it yesterday when I was speaking with you. This is a great honor that you are serving here. You are literally the wheels that keep the entire system that we have in this country turning, and so thank you for that.

Again, my name is John Conlin. I'm from the law firm of Cory Watson in Birmingham, Alabama. I'm not going to reintroduce my whole team because we did that yesterday, but we've got a small space here so we're kind of spread out in the court. So when Jerome and I or one of the other ones are sitting back there, it's not because we're in the penalty box, we haven't done anything wrong. We're just going to move around based upon where we are in the case.

Now, for the next several weeks you're going to hear a great deal of testimony and evidence. You're going to leave this trial knowing more about C-8 than you ever wanted to know.

Excuse me for a second. I'm having a technical glitch. My daddy always told me measure twice and cut once. I thought I did that before I got up here so I apologize for that.

So I'll start back over.

For the next several weeks you're going to hear a great deal of evidence and testimony. You're going to leave this trial knowing more about C-8 and the danger it causes to the community than you ever wanted to know.

Through the evidence you're going to hear from the

actual DuPont employees who were dealing with this poison in the 1970s, the 1980s, the 1990s and the 2000s. You're going to read the actual DuPont documents. You're going to learn everything DuPont knew about the risks of C-8 through the years and every red flag the company ignored. You're going to learn that those red flags were ignored even as its own people were repeatedly asking management to change course before it was too late.

You're going to learn about why DuPont ignored the risks, and I'll give you a hint. The evidence is going to prove that it was all about the money.

And you're going to learn what they actually said when they said it. There's no 20/20 hindsight that's happening in this case. You're going to see what DuPont consciously decided to do, and you're going to see what DuPont consciously decided to disregard as the company did it.

You're going to hear from the surgeons and the doctors who treated the Swartz and Abbott families and, not surprisingly, you're going to hear what happened when that C-8 ultimately caused their cancers.

Finally, you're going to hear from the actual victims of this poisoning themselves. You're going to hear from Angela and Teddy, you're going to hear from Travis and Julie. You're going to hear what it's like for a family to get diagnosed with cancer, to go through the surgeries, to live with the

cancerphobia -- that's the fear of the recurrence -- and what it's like every day thereafter.

All this testimony is going to be new to you, but not to us and not to DuPont. There are no surprises for us because we've already seen the evidence. We've already heard it, we've already read it, and we've already listened to it. Much of it is already set up to show you by video or locked in through sworn deposition transcripts. And all of it, every single bit is based on DuPont's own documents.

We all know this, right, because we've seen it so we can tell you something with absolute certainty right now.

Mr. Wolfe?

This case is simple. Why? Because the evidence is clear and convincing.

C-8 can cause kidney cancer. This is an undisputed fact of this case.

C-8 can cause testicular cancer. This is also an undisputed fact of this case.

The evidence will prove that DuPont dumped C-8 in the drinking water and told no one in the community for almost 50 years. This community around the DuPont plant had C-8 in the water they drank, they bathed in and they cooked with. They had it in the water that they used to make iced tea, make Kool-Aid for their kids, and to make formula for their infants. It was in everything.

From 1980 forward, DuPont was releasing over twenty thousand pounds a year of C-8 into the air and river. Every year. And they increased this all the way up to over 85,000 pounds a year before they were finally made to stop.

It was only after the cat got out of the bag, and that's what the evidence will show. That's a fact that the evidence will prove.

The evidence will also show that there was so much C-8 dumped into the surrounding communities, that in 2005 the independent science panel, the same panel that the Court informed you of in the preliminary instructions, was chosen, and it was chosen to look at the C-8 in six water districts: The water districts of Belpre, Little Hocking, Lubeck, Tuppers Plains, Pomeroy and Mason County. And you will learn that the water districts of Tuppers Plains and Pomeroy are where Angela and Travis both got all of this C-8 poisoned water in their lives.

The science panel determined that if a person drank 0.05 parts per billion of C-8 contaminated water for at least one year, it is more likely than not that a connection exists between the kidney cancer or the testicular cancer and C-8.

Now, being exposed like this does not mean that you have to get cancer and, if you met this definition, and some people won't.

Once you reach this level, you might not get kidney

cancer or testicular cancer at all. You would be a lucky one. Two people living in the same house and drinking the same water might have different results. But if you do get it, and you meet that definition, it is more likely than not that a connection exists between kidney cancer or testicular cancer and C-8.

This is what's called general causation, and the judge told you about it some. And that is what the science says.

Again, this is all undisputed.

Also both Angela and Travis have met this qualification. This is also not in dispute in this case. You're going to see in the trial -- you're going to see in the trial all the qualifying locations where Angela and Travis were exposed and each of the years where this exposure was over the qualifying cancer causing level of 0.05 parts per billion.

Doctor David MacIntosh, he's an adjunct associate professor of environmental health of the Harvard School of Public Health. He's a professor with over 20 years of experience in public health specializing in the environment and something called fate and transport which is about how chemicals move through the environment. He's going to testify about how his team analyzed all the data regarding DuPont's C-8 dumping and pinpointed the amount of exposure Angela and Travis had at each of their locations from work, home, school, other family residences. His team plotted the exact level of C-8

that was in the water for each year at each place to ensure that Angela and Travis were exposed to enough C-8 for that more likely than not connection to exist.

For each of them, for Travis, for Angela, it was almost 20 years of qualifying exposure to the cancer causing levels of C-8.

And you know what DuPont's expert said when he looked at what MacIntosh had done? DuPont's expert said that everything that Dr. MacIntosh did looked a hundred percent correct, and that is why it is not in dispute that for Angela and Travis it is more likely than not a connection exists between their types of cancer and C-8.

And do you know what else this analysis showed?

DuPont dumped so much of this poison into the water of the surrounding communities that Angela Swartz was exposed to enough of it that it was 141 times more than was required to cause her cancer.

For Travis --

MR. MACE: Judge, can we approach?

THE COURT: Distinguish, if you would, between general and specific causation.

MR. CONLIN: It was 141 times more likely than was required to generally cause cancer in someone like him.

MR. MACE: Your Honor --

MR. CONLIN: Again, this does not mean that it

specifically caused his cancer. Or her. I'm sorry, I was talking about Angela, her cancer.

For Travis, he was exposed to enough C-8 that it was over 93 times greater than was needed to prove it caused testicular cancer in that population.

So if you ever hear someone say the dose makes the poison, this is the evidence of the dose that Angela and Travis had of the poison that was C-8.

Again, this is all undisputed. This is all what the evidence will prove in this case.

Well, you already know what happened. Angela drank the contaminated water and, not surprisingly, she developed kidney cancer. Travis drank the contaminated water, and he developed testicular cancer twice. Two separate primary testicular cancers. All of these cancers for both Angela and Travis first developed after they had been exposed to the cancerous levels of C-8 for multiple years.

What's more, we know that C-8 was what caused their cancers because you are going to hear from board certified oncologists and surgeons, experts on kidney cancer and testicular cancer. You're going to hear how they did thorough examinations of these poor people and they went through their medical histories, and they looked at every potential risk factor. Ruled out every single one of them except C-8. And, after doing that, they concluded to a reasonable degree of

medical certainty that C-8 was the cause.

What's more, no one from either side is going to get on that stand and testify that anything else was the cause. No one. That is what the evidence will prove, and none of it will be disputable.

What's more, DuPont had a duty to the community members like Travis and Angela, and they breached that duty. The judge has already told you that. This is also not a fact that will be disputed in this trial.

The evidence will prove that DuPont was conscious of the risks of dumping this C-8 in the river and surrounding communities, and that it intentionally disregarded these risks and threatened every person around the plant and downstream from it. The evidence will clearly and convincingly prove that DuPont knew it was dumping C-8 and was conscious of the risks to the people who were exposed to it, and at the very least to the risk.

The evidence will prove DuPont was conscious of the fact that the C-8 was toxic and hazardous. The documents, they show us that. The evidence will prove that DuPont knew that C-8 was getting into the drinking water of the surrounding communities and knew about this for decades. The documents, they show us that, too. DuPont even knew that the levels in the community water were more than its own internal scientists had said were safe. DuPont knew all of this.

And, as bad as this is, here's what made it worse.

DuPont was consciously aware that the community did not know what DuPont was doing or that this toxic chemical was in every glass of water these innocent and unsuspecting people were drinking every single day. In every pot of stew they cooked, in every meal they prepared. In the water they used to clean their hands and to bathe in.

The evidence will prove DuPont never asked its neighbors if it was okay to dump C-8 in their water. DuPont never warned them or let them make a choice about whether to continue being exposed. DuPont knew that it, and only it, was aware of all the risks of C-8, and only it was aware of its decision to consciously release C-8 into the environment of the surrounding communities while disregarding the risks to those same communities.

For everyone in those communities, for Travis and Angela, DuPont just called them receptors. You'll see that in their documents, that term receptors, because that is what they called these people because the evidence will show to DuPont they really were just nameless and faceless receptors.

Well, the evidence in this case will prove that DuPont decided these kind people in the Mid Ohio Valley would be the canaries in the coal mine, the guinea pigs in the company's giant science experiment to see how long it could pump C-8 into the water before people get sick. So anytime you hear the

company say we were not certain it was a risk, remember that. They were playing with peoples' lives the entire time. DuPont was using this entire community as an unsuspecting science experiment for their own profit. That's what the evidence shows. And it was oh so easy to do that when it depersonalizes these people the way the company did and that, again, is what the evidence will prove in this case.

With all that in mind and conscious of all those risks, DuPont then proceeded to dump thousands and thousands of pounds of C-8 into the community every single year and kept increasing it year after year after year.

Every single one of these facts is supported by DuPont's own documents. Jerome is going to walk you through some of this shortly, but look at DuPont's own words.

C-8 is toxic. When they test it, all the monkeys died. C-8 is in the blood of the workers. It's toxic when ingested. It's biopersistent. It's a toxic carcinogen. C-8 can cause cancer. C-8 is carcinogenic. And on and on and on. These are their words.

As you see, this is no trial by soundbite. Over the next few weeks you're going to see these words spring out of DuPont's own files and from its employees' own mouths, and you're not going to be asked by us to guess at any information you're going to need to provide your verdict. Everything that you need to come back with your verdict at the end of this

trial is going to be right there in your own notes and in the evidence you're going to take back to the jury room.

Like I said, this case is simple and, despite all the documents you will see that DuPont consciously polluted the environment with its toxic cancer causing C-8, DuPont still denies responsibility and it wants you to let it off the hook.

That's what the evidence shows.

The evidence will prove DuPont has been planning for this trial since at least the 1980s. DuPont has been planning for this trial all that time. Planning to keep you from connecting the dots. I want you to remember that phrase. Remember connecting the dots. And they've been waging a war of disinformation in order to one day hide the truth from this very jury just like they did from the community for all those decades. And despite all the testimony you will hear that DuPont completely disregarded its duty when it endangered the lives of the community, DuPont still denies responsibility. In spite of all the proof that DuPont consciously knew that C-8 was harmful to people and completely disregarded the misery it would visit upon its neighbors when it poisoned them anyway with its toxic cancer causing C-8, despite all this DuPont still refuses to make it right. That is what you're going to see from the evidence in this trial. DuPont has always refused to take responsibility for its conduct and nothing has changed. But the evidence, the evidence won't let the company escape

what it did. The evidence will support Angela, Teddy, Travis and Julie being reimbursed for the harm that DuPont inflicted upon them.

When this case is through, your verdict will require you to answer three main questions.

Number one: Did DuPont act with conscious disregard when it released C-8 into the water?

Number two: Did DuPont's C-8, which absolutely can cause kidney cancer, did it cause Angela's kidney cancer and how did that affect her and her husband?

Number three: Did DuPont's C-8 which, again, absolutely can cause testicular cancer, did it cause Travis' testicular cancer and how did that affect him and his wife?

That's the heart of the case. That's what's at the core of everything you will see and hear. The evidence will clearly and convincingly prove that DuPont knew C-8 was and is harmful to people when it dumped it into the environment. That C-8 caused Angela's kidney cancer and that C-8 caused Travis' testicular cancers.

The case is that simple.

But we're not going to tell you to take our word for it. No. We're not going to let you take our word for it. Like I said, we want you to see the actual documents and hear the actual testimony that makes this such a clear and convincing case and a case that DuPont tried to hide from the world for

decades.

Now, before I come back up here and talk to you more about how DuPont C-8 actually harmed the Swartz and Abbott families, Jerome is going to walk you through the actual evidence, the actual documents and testimony that clearly and convincingly outline DuPont's reckless conduct, its dumping C-8, a forever chemical, a forever toxin into the environment. He's going to outline how the company learned of those hazards, when the company decided to hide the information and all the reasons why it did.

The evidence shows it was about the money, about the profits.

Jerome will also walk you through how some manufacturers go about protecting the environment and the surrounding communities, what the rules are regarding safety, and what happens when those rules are not followed. That way we are all on the same page and you get to start your part of the case, your deliberation, your weighing of the evidence with an outline of all the facts that we, all the lawyers in this case, already know.

So thank you. I'll cede the floor.

MR. TAPLEY: Your Honor, may I proceed?

THE COURT: You may.

MR. TAPLEY: Ladies and gentlemen of the jury, I'm going to start right where John left off and talk about the

rules for chemical companies and how those apply to the safe use of forever chemicals like C-8, and how a chemical company can use chemicals like that in a way that keeps our community safe and to make sure that folks around their plants aren't harmed.

Before I do that I think we need a little bit of a history lesson to talk about how we got to where we are.

Around World War I there was an explosion in our country and, frankly in the world, of new chemicals being discovered and developed. Now, that was at a time when we didn't have the EPA. It was at a time when we didn't have governmental agencies regulating what was going on with business and the chemical industry to make sure that we're safe. So the EPA, in fact, never came into existence until 1970. In 1976 Congress passed something known as the Toxic Substances Control Act, and that act was very important in regulating chemicals in our environment and in our world.

After the Toxic Substances Control Act came into existence, requirements had to be met before chemicals could be used for new chemicals.

For new chemicals a manufacturer had to tell the EPA it was going to start using this chemical, make certain disclosures to the EPA about the chemical so that the EPA could then determine whether there was an unreasonable risk to human health or the environment from that chemical.

Well, then that begs the question what about all the chemicals from World War II until 1976? What happens with those?

Well, there were somewhere around 62,000 of them at that time, and that included C-8 which DuPont had used since the 1950s.

For these pre-1976 chemicals, the responsibility to ensure the safety of those chemicals was placed on the companies themselves who used them, an honor system of sorts. Where I'm from somebody might describe it as the fox watching the henhouse.

But, nonetheless, companies were required to generate certain reports and data and to submit that to the government when they saw certain issues that came up with the chemicals they were using, and this system was put into effect to protect communities surrounding places where chemicals were used from substantial risk.

So then we're at 1976, and we know that all chemicals -- all chemical companies know that if they think they might be using a chemical which is toxic or cancer causing in manufacturing, then they have to exercise due care and due care must be taken to report to the government and to protect people who might be affected by those chemicals.

The evidence will show that DuPont did some of that for their employees, but they never told anyone outside the walls

of their plant about C-8 and what was going on with C-8.

Now, I want to be clear and I want to talk to you about those standards in a way that I understand them and in a way that makes sense to me in a way that I hope is a roadmap for you to understand the case and to understand DuPont's conduct.

I also want to be clear that I didn't make this up.

One of the first witnesses you're going to hear from is Dr. Bruce Karrh who used to work at DuPont. He was the internal director of employee safety for DuPont, and he talked about these exact responsibilities and recognized that these were responsibilities for chemical companies such as his employer, DuPont. He published papers about these responsibilities and he testified before Congress about them.

Number one, all manufacturers know that they must monitor the dangers and risks to human health and the environment associated with the toxic chemicals they use.

All manufacturers know that they must investigate the dangers and risks to human health and the environment they discover that are associated with the toxic chemicals they use.

All manufacturers know that they must communicate those risks that they discover to the people who might be exposed to that risk.

As I think of it, three big rules: Monitor, investigate and communicate.

All manufacturers also know that if they choose to use

cancer causing chemicals in their business, they must dispose of those chemicals in a way that is safe. All manufacturers know that if they don't follow these rules, that serious injury or death can occur, and all responsible businesses know that they should accept responsibility when their business causes harm to someone.

This way, even though there may be risk for toxic chemicals, when the rules are followed, manufacturers get to make their products, they get to employ employees who can support their families, they get to make profits, people have jobs, and the risks are managed and we're all safe and the communities know that everything is aboveboard.

This is all a good thing when the rules are followed.

But some manufacturers test their toxic chemicals on animals, get bad results and decide not to monitor. Some manufacturers see red flags in animal tests but decide not to investigate. They don't take the other step to fully uncover the risks. Some manufacturers decide not to tell their neighbors that they're exposing the neighbors to toxic chemicals. They decide that the neighbors wouldn't really understand that a little poison might be okay. Some manufacturers decide we're not going to spend the money it would cost to properly dispose of the toxic chemicals. They decide instead let's just dump it in the environment.

I've heard it before, this notion that isn't dilution

the solution to pollution.

Some manufacturers decide it will be okay if we don't follow the rules. After all, we can decide how much of a toxic chemical is actually bad for folks. Some manufacturers say even if it harms some people, they won't be able to prove it came from us. They'll say wait to see if we're sued. We'll deal with it then.

And what happens when manufacturers decide to act this way?

The evidence will show that people are getting cancer. People get hurt when manufacturers use toxic cancer causing chemicals and then don't dispose of them properly. People get cancers when companies pollute and dump cancer causing chemicals into the environment. People get cancer when those toxic chemicals are dumped into their drinking water. And it's especially true when the polluter doesn't tell the people we poisoned your wells.

The evidence will clearly show in this case what DuPont did not to faceless, hypothetical receptors; DuPont did it to people, and those people are sitting in this courtroom.

But I don't want you to take my word for it. Let's talk about the evidence.

I'm going to give you a little disclosure about this before we get started. There's going to be a lot of documents and a lot of testimony in this case. This isn't all of it.

What I've tried to do is give you a roadmap so you can understand what you're going to hear in this case so you go in with a frame of trying to figure out how the pieces fit together. As we go through some of these documents, I will show you what I expect to be evidence in this case that will come in and that you'll take back to the jury room with you.

There will be other slides in this presentation which lawyers call demonstrative aids. The purpose of those aids is to help demonstrate a point or demonstrate a concept to the jury. When we get to those, I'll do my level best to point out to you that this is a demonstrative and not something that will be evidence that you'll actually take back to the jury room with you. I want to make sure that we're on the same page and that you don't leave with any misunderstandings of what I'm trying to present this morning.

What do responsible chemical companies do?

Another thing, I watched JC do this and I think you have to hold the clicker just the right way and look at y'all and look at this, and so if I move around my head on a swivel, I'm not trying to be funny looking up here. I'm just trying to help you through it.

So you'll see on this slide here here's the document. This yellow sticker, that's an exhibit in this case. It will be evidence you'll have with you, or I expect that you'll have with you, in the jury room. If you want to write down those

numbers as you see a piece that strikes you as particularly interesting, then it will be a reference point so you can find that later in time when you're back deliberating.

This comes directly from the document. This is Dr. Karrh. I mentioned him earlier. I told you I didn't make up the rules, that Dr. Karrh is one of the sources of these rules. It's a paper he wrote in 1976.

Company duty to report health hazard. The first principle is knowledge. You've got to make your judgment on the best available knowledge of the health hazards.

Number two, commitment. You've got to be committed to make and to use products and chemicals safely. Inform employees and others of possible health risks when they come to light.

Number three, responsibility. You've got to disseminate the knowledge to all groups that need to know.

Number four, compliance. Meet or exceed all implementing laws and regulations.

Number five or, finally, communication. Inform appropriate groups outside DuPont of potential hazards and actions taken by DuPont to minimize the impact.

This also came from Dr. Karrh. It's the duty of every company's management to discover and reveal the unvarnished facts about health hazards. A company should be candid and lay all the facts on the table. This is the only responsible and

ethical way to go.

These slides so far all came from the same exhibit, P1.3128.

As I told you, there would be some demonstrative aids. This is one. This is a summary of what we found in Dr. Karrh's paper.

First principle, know the health hazards and the consequences for the plant on the public.

Second principle, commit to using chemicals safely and inform people of health risks when they come to light.

Third principle, pass along all information about chemicals to groups that need to know.

Tell folks like the plaintiffs.

Fourth principle, meet or go beyond what the rules require for dangerous chemicals.

Fifth principle, tell people if they are exposed to dangerous chemicals and reduce the impact.

Let's talk about how you could follow these rules.

So this is a flowchart and a demonstrative aid that puts the rules to work. Chemical company develops dangerous chemicals for use in production of products.

Number one, you test the dangerous chemicals for human harm.

Number two, you report the tests to the regulatory agencies that need to know.

Number three, you find red flags and you test and you act upon them.

One way you might act upon them is at the top. You stop using the chemical. You do that and the public's not exposed to any danger. The other way you might do it is the chemical company disposes of dangerous chemicals properly. Again, the public's not exposed to the dangerous chemical.

What if they don't follow the rules?

Well, in this flowchart the chemical company hides information from the public. The chemical company ignores the red flags. The public is exposed to the dangerous chemical, and the public is at an increased risk for serious disease.

Let's talk about what C-8 is. I know you've heard about it so far. You're probably wondering what in the world is this stuff so I'm going to do the best I can to give you an overview of what it is.

C-8 is a manmade chemical created in the 1950s. It didn't exist on planet Earth prior to then. They might bicker with me a little bit, but I call it unnatural. It didn't exist in nature.

DuPont started using C-8 in its Teflon division in 1959. DuPont is a -- I'm sorry, I misspoke.

C-8 is a surfactant, a slippery substance like soap.

So in manufacturing certain substances sometimes you need to use two chemicals that don't want to get along with one

another and they're hard to mix and they're hard to make stay mixed together. Kind of like salad dressing, I guess.

C-8 is one of those chemicals that makes two chemicals that don't like to play together, play well together so that you can use it in manufacturing. That's its purpose.

C-8 is biopersistent, which means it's very hard for the human body to get rid of it. We're going to come back to that in a minute, but that's the concept about C-8 that's important to why C-8 is bad.

C-8 has a long half-life, another very important characteristic of this chemical.

C-8 is referred to as a forever chemical. We'll talk about that more in a minute.

C-8 is bioaccumulative which means every exposure adds up with the previous exposure, and we'll talk about the concept of bioaccumulation a little more.

C-8 is toxic and C-8 can cause cancer.

So here is a slide, a demonstrative slide like the previous one that illustrates four of the attributes of C-8 which makes it a dangerous chemical.

It's slow to break down. It has a long half-life. Again, we're about to get to that. It bioaccumulates, builds up in the body. It's hard to eliminate. It biopersists and it can cause cancer.

C-8 is toxic.

So this is a 1961 internal DuPont document right out their filing cabinets. You see the exhibit number there. I expect this will be evidence you'll see in the jury room when you're deciding this case. DuPont knew C-8 was toxic and should be handled with care in 1961. Another document, 1993 about C-8's toxicity directly from DuPont. DuPont could not guarantee a safe level of C-8 in 1993. C-8 has a long half-life. This document from '96, another DuPont document. DuPont believed that C-8 had a half-life of a million years in the environment and knew that it could not be removed from the environment.

Again, this is a point they might bicker with me on, but a million years in my mind is forever and that's where we get the notion that this is a forever chemical.

The concept of half-life is something that you're probably going to need to understand and know in this case, and what half-life means is this:

If I took my cup of water and that water had a half-life of a million years, then that means the full cup of water would be half a cup of water after a million years. Half of it would be gone, half would still remain. Another million years and we'd be down to a quarter cup of water.

I hope that makes sense, but that's the way I try to understand it.

C-8 bioaccumulates. What happens when you drink water

that has C-8 in it is that it builds up in the body. With every glass more C-8 is left behind as your body level of C-8 in your blood increases.

C-8 also biopersists because your body doesn't really know what to do with C-8.

The next is a demonstrative along with an exhibit from a DuPont document.

Nope, not yet. Sorry. Got them out of order in my mind.

This is a 1999 document from DuPont. DuPont knew that C-8 was persistent, biopersistent in human blood in 1979. 1979.

1982, DuPont worries about workers donating C-8 contaminated blood. They were worried about their workers giving blood donations because of the C-8 in their blood. 1982.

Now we're to the animation along with the document. This is from a lawyer at DuPont, in-house counsel. He talks about how it keeps recirculating within the body, the intestines to the liver back to the stomach back to the intestines back to the liver back to the stomach back to the intestines. And that's intended to illustrate biopersistence. Your body doesn't know what to do with the C-8 so it just keeps recirculating in the blood over and over and over again.

C-8 can get into the groundwater. 1966, DuPont knew

that C-8 could get into groundwater.

And I hope you remember some of these earlier dates when you're confronted with the notion of 20/20 hindsight and Monday morning quarterback because we're talking about way back in time what DuPont knew about C-8.

1982, again here's Dr. Karrh, DuPont medical director, internal memo. DuPont knows that C-8 could leave the plant and expose the community. 1982 they knew that.

C-8 is emitted into the air. DuPont knew in 1981 that wind carried their C-8 air emissions to the northeast. DuPont knew that air emissions would fall northeast of the plant in 1981. Again, 1981.

2001 e-mail, it's important to know that there's a large plume of C-8 emitted from the fine powder dryers.

2003, C-8 air emissions and discharges to the Ohio River contaminated public water supplies.

Not only did DuPont know it could get into the groundwater, they knew it was there.

In 1984 they knew it was in the public water supply of Little Hocking. In 1984, DuPont even considered telling people.

In 1989 DuPont decided to stop testing water in the communities.

1998, again in-house lawyer at DuPont points out that DuPont knows C-8 can get everywhere from a human drinking the

water to human blood.

2001, same lawyer, he describes DuPont as pooping C-8 into the river. This is a study that DuPont commissioned sort of going back and looking at the dumping of C-8 from '51 to 2003 looking at what they call emissions.

This is 2004 when Little Hocking found out about C-8 in their water. C-8 may pose serious health risks. Now, they didn't use C-8 in their manufacturing process, they didn't make any money off C-8, they didn't produce any products with C-8, but they found out about C-8 in the water they're supplying people and they tell folks.

Another big part of the proof in this case is going to be animal studies, and there are going to be a lot of them with a lot of interesting results. I'm going to try to give you an overview of sort of how to look at the animal studies so that you don't get lost in the mudhole when you come to it, and hopefully it will be enough background that you can pose your own questions in your mind and think through the evidence critically.

This is a 1978 animal study, 1978, to see the effects of C-8 on monkeys. The monkeys treated with a higher dose died during weeks two through five of the study. The next level, three monkeys died. They all showed signs of toxicity in the gastrointestinal tract, pale faces and gums, swollen face and eyes, slight severe decrease in activity and prostration. '78.

Here's a demonstrative that sort of gives you a roadmap of sort of the early animal studies and what DuPont learned from those studies.

So you got a 1962 rat study finds enlargement of the adrenals, the testes and the kidneys. '62, we see kidney problems and testicular problems. '65, beagle study finds toxic liver damage and cellular damage. '78 to '79, monkey study ends after the monkeys die. Study found deaths were C-8 related. '79, multiple rat studies show liver effects, liver damage, and the enlargement of the kidneys and the testes.

So we're talking about animal studies in the '60s and '70s.

Here's a 1988 internal memo from DuPont where they found testicular Leydig cell adenomas. Based on historical control instances for these tumors, only the Leydig cell adenomas were considered compound related.

Considered compound related means C-8 played a role in that. That's what the evidence will show.

1993 internal memo. This is rats again. Hepatic adenomas, Leydig cell adenomas and pancreatic acinar cell adenomas. '88 study with testicular tumors. '93 study, testicular tumors, liver tumors, pancreatic tumors. '99, another monkey study. One of the high dose monkeys died, one of the low dose monkeys died. Consensus is the death was C-8 related.

What does the National Institute for Occupational Safety and Health say about animal tumors? Because the question may come up are animal studies important? Well, we do them all the time. So are they important? Well, this nationally recognized organization says that any substance which is shown conclusively to cause tumors in animals should be considered carcinogenic and, therefore, a potential cancer hazard to man.

They didn't say that yesterday. It was in 1976.

One of DuPont's own witnesses, Robert Rickard, was asked so would you agree with me, to use your words, unless you can absolutely and definitively conclude the mechanism is not related to humans, that's the default assumption; is that right? Answer, yes.

This question was in the context of animal tumors. Unless you can scientifically show that there's something really different about man and the animal that would allow you to exclude it, you've got to assume you're going to see it in man if you see it in animals.

C-8 can cause cancer.

I'm sorry, will you go back just one? I'm not any good with this, if y'all hadn't noticed.

So this is 1988. DuPont classifies C-8 as c, meaning it's a possible human carcinogen.

1989 at the plant where the C-8 is coming from that gets into peoples' water at issue in this case, DuPont knows there's

a statistically significant excess of cancers at the plant.

1993, DuPont knows C-8 is toxic and carcinogenic. This is a DuPont internal report. 1993. Their words out of their filing cabinet.

Again, 1994, their words, their filing cabinet, DuPont knows C-8 is a possible human carcinogen. 1994.

1997, their document. DuPont knows C-8 is a carcinogen.

Carcinogen, biopersistent, environmentally persistent, foaming in waterways. That's how they describe C-8 internally, 1997.

My partner JC showed you this slide. I want to show it to you again. I think it's a good point to sum up.

C-8 when consumed in drinking water containing at least .05 parts per billion for one year or more is capable of causing testicular cancer. The same is true for kidney cancer. .05 parts per billion for one year or more, kidney cancer.

So how much is a part per billion? And I think you need to know that so that you understand how little of this it takes.

A part per billion is a drop in an Olympic size swimming pool so a half a drop for a year or more can cause those cancers.

MR. MACE: Objection.

THE COURT: There's an objection. Let me see you at sidebar. You may stand if you wish, ladies and gentlemen.

(The following proceeding was held at sidebar.)

THE COURT: There's an objection.

MR. MACE: Yes, sir. You had overruled me yesterday and let them use .05, but I thought you made it clear to them that they were to make it clear that that only dealt with general causation, not specific causation. His last comment did not do that.

THE COURT: I don't remember the comment.

MR. MACE: He said that's all it takes, 0.05 causes cancer.

THE COURT: Well --

MR. CONLIN: He said can cause cancer.

MR. MACE: No, he did not.

THE COURT: Just being technical, it is capable of but specific causation is still to be tried. Make sure we don't blur the two when we're saying it causes cancer. It may cause cancer.

MR. TAPLEY: I'm happy to clear it up, Your Honor. I tried to be very careful.

THE COURT: How much longer do you have? We need to take a break. Are you close to being done?

MR. TAPLEY: We should take a break. I'm not close to being done.

MR. CONLIN: Your Honor, why don't you let him fix that up first.

THE COURT: And then we'll go back to take a break.

MR. LONG: Your Honor, let me just note something for the record. I'm just making a record here, Your Honor, but I hope the Court appreciates that. What we've already heard in opening argument is with respect to dose makes the poison, they've connected dose makes the poison to the science panel ruling, and our position is that opens the door to us analyzing whether -- let me be specific about this. Not with respect to just the science panel's ruling, but with respect to testicular cancer at the lowest ranges in which Mr. Abbott falls in which they found that there was a deficit of testicular cancer at the lower ranges, and the only connection to testicular cancer was the people that had the highest exposures had a higher incident. And we would be -- we would like to be able to explain, therefore, that Mr. Abbott falls in the lower range for which the science panel acknowledged that there was a deficit of testicular cancers and which the science panel acknowledged that there had not been a testicular cancer --

THE COURT: We don't have much more time. Let's wrap it up.

MR. LONG: Testicular cancer for six years from 2006 to 2012. Thank you, Your Honor.

THE COURT: I ruled on this repeatedly. This is a function of the Leach settlement agreement. It's not a scientific principle. You're either in or you're out. I've

held that repeatedly.

MR. LONG: We're just making a record, Your Honor.

(The following proceedings were had in open court.)

THE COURT: We're going to clear up one little matter, and then we're going to take a 15-minute recess. You may proceed.

MR. TAPLEY: Thank you, Your Honor.

I want to clear up, I think, two things. One, I was real bad at math just then and my partner corrected me.

.05 parts per billion is not half a drop, it's a 20th of a drop. So I'll clear that up. Some of y'all are probably better at math and realize I was making a fool of myself, and I'm sorry about that.

The second thing, when I talked earlier about -- and I want to make sure you all understand me now. I don't want to mislead you. That slide .05 parts per billion is capable of causing testicular cancer, is capable of causing kidney cancer, that is a matter of general causation as the judge talked to you about this morning. It does not mean by itself and it does not mean that it did cause their cancers. That's left to other experts, and we're going to talk about that later in this opening statement and there will be other evidence that comes in this case. So I don't want to mislead anybody and I don't want anybody thinking that I tried to.

THE COURT: Thank you. With that, we're going to be

in recess for 15 minutes.

(Jury out at 10:40 a.m.)

(Recess taken at 10:40 a.m. to 11:00 a.m.)

THE COURT: We'll continue with the plaintiffs' opening.

MR. TAPLEY: May I continue?

THE COURT: You may.

MR. TAPLEY: Thank you, Your Honor.

So let's talk about human studies from DuPont. This is a human study on 53 workers at DuPont with the conclusion that a probable inference of PFOA - that's another word for C-8 - on intermediate metabolism deserves further investigation. Testicular cancer incidents, five new cases per one hundred thousand people. One important thing to know about this particular study which recommended more investigation is that it was not set up to be a quote/unquote cancer study.

Here is another document about a study from 2006 intended to measure the relationship between serum levels and certain health parameters. I'm going to give you an overview of some of this stuff. I'm going to pick up the pace at certain points not because I don't want to keep you from taking notes, but because I want to get through it. I'll slow down when I think we need to ponder a little bit; but just to give you a heads up.

In this study it showed of DuPont workers -- 3M found of

their workers that the relative risk of prostate cancer was 3.3 for workers employed in chemical manufacture of ten or more. There will be experts to help you understand what the relative risk increases and at what number that matters.

This study shows that we have shown that the residents of the water districts have a median serum PFOA - that's C-8 again - that is approximately 70 times that of the general U.S. population.

2006. The objective of this study was to determine whether certain biomarkers of toxicity and/or past diagnosis of liver or thyroid disease were associated with serum perfluorooctanoic concentrations, PFOA, and a community with longstanding environmental exposure to PFOA. We did not evaluate cancer outcomes.

One critical thing to know about the study.

What did DuPont say about C-8 internally? You're going to hear in this case from witnesses who take that stand and testify to you what DuPont thinks you should think about C-8.

But what did they say to each other within DuPont when they didn't know folks would be listening?

1982. Bruce Karrh, again, medical director. The chronic health effects from long-term exposure to low levels of C-8 is quite limited.

1982. They're admitting internally we don't really know what this does to folks.

1991. DuPont keeps C-8 information confidential. Let's make sure it doesn't get outside the company.

1993. C-8 is the devil we know. Their own words about the chemical they're using: the devil.

'99. DuPont's internal lawyer admits that it should have used a commercial landfill for C-8 instead of the river.

How do responsible chemical companies handle toxic chemicals like C-8?

1987. DuPont knows it should reduce public's exposure to C-8.

'89. DuPont knows it should reduce the public's exposure. Dr. Karrh again.

'94. We'll drive toward zero emissions giving priority to those that may present the greatest potential risk to health or the environment; a DuPont commitment.

Remember that date, '94.

And there are the emissions, the dumping, the polluting; kept climbing.

'86. This is a material safety data sheet. This is sort of the warning sheet that goes with the chemical from the manufacturer that tells somebody who is going to be using the chemical what they should know about the chemical. 3M, the manufacturer who was selling it to DuPont in 1986, said to incinerate C-8 when you're done with it, or dispose of it in a chemical landfill.

Had they incinerated it or disposed of it in a chemical landfill in 1986, everything to the right of that red flag wouldn't have made it into the river and into the water.

'88. 3M again, incinerate. '88. Everything to the right doesn't make it into the water.

'89. Incinerate. Again, everything to the right of the flag doesn't make it into the water.

3M again, '91. Incinerate. There is the flag for '91.

Now, this is DuPont's material safety data sheet for C-8 in '91. This is what DuPont tells people about C-8. DuPont admits it should incinerate C-8 in '91. Everything to the right of the flag wouldn't be there if DuPont had followed its own material safety data sheet.

'94. 3M told them again, incinerate. There is where '94 falls on the graph.

'97. DuPont's MSDS. There's the flag for '97.

'99. Another DuPont MSDS. DuPont says this time incinerate it or carbon filter. There's '99.

What did DuPont know about how to safely dispose of C-8? 2001, DuPont's fluoroproducts had their best financial performance in the year 2000. C-8 is a fluoroproduct.

Did people have to be exposed to C-8?

Was there a substitute?

Yes.

In '84 DuPont considered replacing C-8 with a

substitute. Why not?

DuPont decided that C-8 emissions control was possible in '84 but didn't do it because of cost; considered replacing C-8 in '92 but didn't because of cost.

Incineration is another way, as we saw in the material safety data sheets, to get rid of C-8. It's mentioned again and again and again in the MSDS: incinerate.

DuPont admits in '84 that thermal destruction, incineration, would be more likely to reduce exposure to C-8. '84. In '84 they considered incinerating C-8 but it was going to be a million dollars a year to do it; 15 cents a pound.

Again, in '86, 3M tells DuPont incinerate C-8 or use a special landfill.

'86. DuPont knows C-8 can be thermally decomposed, incinerated, and disposal to the river is probably unacceptable. '86.

'87. They list out the temperature at which you need to get C-8 to make it harmless. Decomposes at 266 degrees Fahrenheit.

'91. They talk about lined chemical landfills.

'93. There is an internal DuPont paper showing that DuPont technically understands, knows, and can build incinerators. They have the expertise in-house. Also in '93 they consider actually doing that to be economically painful. Also in '93 they decide that incineration has to be a last

choice.

'97. Internal memo shows that DuPont knows that C-8 decomposes quickly when heated.

Roger Zipfel is a former employee, might still be an employee of DuPont; not sure on that. He was the supervisor at DuPont of the chemical area dealing with those fluorochemicals like C-8. I think one time, or maybe more than once he called himself the champion of C-8. This is testimony from his deposition.

"Where was DuPont buying C-8 in the '80s and '90s?"

"From 3M."

"How was 3M destroying C-8?"

"They were incinerating it."

DuPont was not. They were dumping it in the river.

So, when I first started getting to know and learning the facts of this case, incineration seemed like a big word, seems hot to me, seems like something that's a big deal. So I wanted to understand what's really meant in the context of C-8 for incineration. What are we talking about?

It turns out I was right when I thought that it was a big word and it was really, really hot because commercial incineration is 1800 degrees Fahrenheit. That's not what we're talking about when we're talking about incinerating C-8. For a guidepost here, a warm shower is about 105 degrees Fahrenheit, water boils at 212, C-8 decomposes at 266. You cook chocolate

chip cookies between 350 and 400. C-8 rapidly decomposes at 572. At 680, it decomposes in a fraction of a second. And a home oven on a self-cleaning cycle is about 850. We're not talking about super-industrial incineration. We're talking about temperatures lower than that.

I wanted to put this chart up there just to show and illustrate in 1984, if DuPont follows instructions, decides to incinerate, just so we can be clear, everything that's green on this graph never went into the river, never made it into the water.

The other option as we saw in the documents is using carbon to treat C-8. The '95 internal DuPont memo that I expect you're going to get as part of the evidence in this case where DuPont considered using carbon in 1995.

Now, let's talk about what DuPont said internally about its liability from C-8. What did they think about their own C-8 conduct?

Well, you might hear it said in this case that it wasn't foreseeable that C-8 would hurt people. But you're going to see an exhibit into evidence that in 1975, DuPont fears that C-8 is a human -- is toxic to humans.

You might hear in this case as a defense that we couldn't know how bad C-8 was. But you're going to see in '84 that internally DuPont said we know we've been liable for 32 years.

You may hear as a defense in this case there's no way for us to know what would happen as a result of this C-8. But you're going to see a document in 1984 when they're talking to themselves where they're concerned about third-party lawsuits.

You may be told that there was not information for them to know what the dangers of C-8 were. But you're going to see that in 1986 they were telling themselves that we must protect our plant from public liability.

You may be told that at DuPont we just weren't aware of any harmful effects of C-8. But in '89, they were saying internally we must reduce public exposure to C-8.

You may be told we just lacked enough knowledge about C-8. But they told themselves in '92 that C-8 toxicity could be our number one legal problem.

You may hear how could we have known that C-8 was bad for people? But in 2000, they were telling themselves our conduct can subject us to punitive damages in trial.

This is another document I expect you to receive into evidence. 1984. DuPont knew that their legal team would recommend total elimination of C-8 in 1984. This document always struck me because this document says that the lawyers and the doctors agree and are likely to recommend that we eliminate C-8. Maybe it's just me, but I find it interesting that lawyers and doctors are agreeing on something.

'84. Liable for the past 32 years. That's since 1952.

1986. DuPont worries about their liability for exposing the public to C-8.

1991. Again, Mr. Zipfel, I told you the champion of C-8. They were having an internal conversation, discussion, debate - one of those verbs works - about whether or not to do a further epidemiological study on the effects of C-8 and how harmful it is. He wrote in his notes: Do the study after we're sued.

This is from his deposition testimony. He was asked point-blank: "You've written there do the study after we're sued. That's what you wrote, right?"

Answer: I wrote that.

1999, internal DuPont e-mail. 1992, internal DuPont e-mail. DuPont worries that C-8 may be the number one tort issue. Tort is a civil claim like the claim in this case.

1999. Got it right this time. In-house lawyer DuPont, Mr. Reilly, "We should not let situations arise like this. We should have used a commercial landfill and let them deal with the issues. Instead, the plant tries to save some money and apparently did not consider how it might look that this guy's cows are drinking the rainwater that's percolated through our waste."

2000. Mr. Reilly sends another e-mail, "The lawyer for the farmer finally realizes the surfactant issue."

That's C-8.

"He is threatening to go to the press to embarrass us, to pressure us for big bucks. Finally, the plant recognizes it must get public first. Something I've been urging for over a year. Better late than never. We're hoping plaintiff does not get there in the next couple of days. We need about a week. Such is life in big and I suspect little companies."

2000. Internal DuPont e-mail. DuPont's in-house lawyers were concerned about C-8 lawsuits in 2000. "Additional threat of punitive damages hanging over our head. Our story is not a good one. We continued to increase our emissions into the river in spite of internal commitments to reduce or eliminate the release of this chemical into the community and the environment because of our concern about the biopersistence of this chemical."

Mr. Reilly, again, March of '01. "The attorney in our West Virginia case sent an 18-page letter to all of the agencies laying out his version of our sins. I can tell my clients I told you so, but that's a small pleasure. Pretty sad they're so clueless. Guess they think folks like to drink our stuff."

Mr. Reilly again in 2001. "The business has finally decided there's nowhere to hide. So it's becoming more aggressively responsible and open. That is a good thing that I have consistently been urging. If they were more savvy, they could have figured that out for themselves long ago. Better

late than never."

2002 from Mr. Reilly. "Our Parkersburg plant written up by the doofus reporter in the *Charleston Gazette* yesterday. I've been beating on the client to get the word out for a while. Finally wore them down. They sure like to be able to say they were candid, but getting them to be candid when the news is bad is not so easy."

Eventually 3M stops making C-8. They sent a letter to the people who were buying it from them, including DuPont, in 2000 letting them know they were going to be phasing it out.

2001. DuPont said we'll build our own plant and make our own C-8. They spent $23 million building that plant in North Carolina. And that was in 2001.

DuPont got hit with an EPA violation. I'm not going to say a whole lot about it, but I think you need to know it in terms of the overall story. Briefly I'll tell you about the summary of the violation. EPA leveled a penalty and found that DuPont failed to tell them about C-8 in drinking water inside people's homes and cited them, fined them, a substantial civil penalty. 2005.

The key years, as we see it, to sort of gauge and judge DuPont's conduct are not back in the '50s and '60s and '70s. The key years are '84, '88, '93 and '98. By '94 -- '84, DuPont is aware that C-8 is a liver toxin. DuPont is aware that C-8 is in the drinking water of the Little Hocking Water

Association public drinking water supply. DuPont also becomes aware that C-8 is in the drinking water of the Lubeck Public Service District.

By '84 they know their chemical is outside their plant from their pollution, that it's toxic, and it's in people's drinking water.

'84. DuPont is aware of a potential carcinogenic effect associated with C-8. They've got a red flag. C-8 may be causing cancer, may cause cancer, '88. They're aware that rats are getting Leydig, testicular tumors. And DuPont internally has classified C-8 as a possible human carcinogen. '88. Already know four years before it's in people's water.

'93. Well-respected scientific organization that I don't remember the name of as I stand right here because I just drew a blank, and I apologize, but you'll hear from the witness stand, classified C-8 as a known animal carcinogen. '93. Also rats exposed to C-8 produce a triad - that's three - pancreas, liver, and testes; a triad of tumors.

'98. This is where we believe the evidence will show the coverup started in earnest. DuPont downgrades C-8 to not likely to be human carcinogen without any valid scientific basis we believe the evidence will show.

It misrepresents the classification of C-8, and issues public denials of the evidence of harm. Rather than communicate like we learned from Dr. Karrh, tell people what

you know, they start publicly denying what they know.

The next two slides are sort of summaries of stuff we've talked about some, and some we haven't in a way that linearly I think about it and helps me understand the story and I hope it helps some of you all.

So you got '79, 3M tells DuPont that C-8 is in workers blood. '91, C-8 is considered toxic. '81. Sorry.

'82. Dr. Karrh warns DuPont about potential for C-8 to leave the plant and expose the local community.

'84. DuPont discovers C-8 in the drinking water.

'88. Rat study finds testicular tumors in rats caused by C-8 and DuPont considers C-8 a possible human carcinogen.

'92. DuPont itself sets a community exposure limit for C-8. They decide how much of it is too much for the folks to drink.

'93 is that triad of tumor study we talked about a moment ago.

'97. The MSDS is updated to say that C-8 can cause cancer.

The lines at the bottom are intended to illustrate the point in time -- the bottom in yellow -- when DuPont first knew that C-8 was not good, toxic, poisonous; the orange when DuPont realized that C-8 was getting outside and potentially exposing their neighbors and the community surrounding; and, red, the point in time on the time line in which DuPont, we believe the

evidence will show, should have told the communities. By 1998, they should have already been telling people. The evidence will prove that. But instead, they're changing the message. They're saying it's not so bad. They're downgrading it.

2000. 3M is out of the C-8 game, not going to make it anymore.

2001. DuPont discovers C-8 in the public drinking supply heavier than the limit they set themselves and told nobody about.

2005 is the EPA action against DuPont.

In 2012 is the science panel and its link of kidney cancer and testicular cancer.

Now, DuPont has an internal presentation, I think a PowerPoint would be a fair way to describe it, of what to do in a situation like this where you've got a history of not-so-good information about your conduct. You didn't do what Dr. Karrh said you should do. You didn't follow the rules, and now you're in a pickle. So what do you do?

And they talked about connecting the dots. And it's how DuPont goes to spin things.

The first thing DuPont says in the presentation of note is how can information about the dots be obtained? Discovery proceedings - that's in a lawsuit -- the Internet, government agencies, media, Freedom of Information Act request from government, personal communications.

Well, is there a strategy we can use to minimize the amount of information being disseminated?

The next thing is they ask maybe rhetorically, maybe not, who has an interest in the dots? And they come up with a list of people who might be interested in knowing what the dots are and how they connect. They make a list of what can trigger interest in the dots. Why might someone want to know about the dots? Health issues?

Survey and rank all sites for potential liability consideration. A number of potential plaintiffs is one of the things they took into account. Look just below there. The presence of receptors.

My partner Mr. Conlin talked to you all about DuPont talking about folks as receptors. So they rank the sites. Number four on the list is the Washington Works plant where the C-8 left and got in the water in this case.

And so they came up with a strategy to reduce the incentive to connect the dots. How do you keep people from understanding what they did? That, ladies and gentlemen, the evidence will prove is conscious disregard for the health of their community members and their neighbors.

They put together an issue management team, or talked about it. They got folks from the business team, legal, environmental lawyers, legal, tort lawyers, PA resources, risk communication resources. At the bottom it says: We ought to

do a little planning to look at what could happen if some of these dots start to get connected.

The evidence will prove that that coverup is conscious disregard. And you're going to get to see the dots in evidence in this case.

So we've been through a lot. Let's take a short moment to summarize some of this stuff and come back to Dr. Karrh and what the evidence shows DuPont did when faced with those five principles from Dr. Karrh.

Well, they get a check mark for knowing the hazards of C-8. We saw that in their documents. They knew it was toxic. They knew it was carcinogenic.

Second principle. Commit to using chemicals safely and inform people of the health risks. I don't believe the evidence will fairly give them a check mark on that. I think that's going to be an X.

The same thing for number three: Pass along the information to groups that need to know. I don't think you're going to see a lot of communicating to people outside of DuPont in evidence in this case.

Fourth principle. Meet or go beyond what the rules require for dangerous chemicals. The EPA didn't even think they met the rules; substantial civil penalty. I don't think the evidence will fairly give them an award for that one.

Number five. Tell people if they're exposed to

dangerous chemicals. They didn't do that one either. That, ladies and gentlemen, the evidence will prove is conscious disregard.

What did DuPont say about C-8 to the public?

2002. "It's important to emphasize that there is an extensive database on C-8, including employee health effects study from DuPont and others, that indicate no known adverse human health impact associated with current or historic use of C-8."

2002. The evidence is going to show that was not a fair statement, not in 2002.

2003. No known adverse health effects in workers associated with C-8. The evidence will prove that is not an accurate statement, not by 2003. You don't get to say that.

2003. Again, DuPont press release, "Newly generated data which were presented in an open scientific forum and which have been shared with EPA, are more comprehensive and should demonstrate that there is a higher margin of safety than reported in EPA's internal draft."

The evidence will prove that that was not an accurate statement, not in 2003. Again, in 2003, no evidence or data that demonstrates PFOA causes adverse health effects. Not supported by the evidence.

2007. Data showed no human health effects known to be caused by PFOA. Not supported by the evidence.

DuPont tells the community don't you worry a little bit. There's no harm from C-8. Your family is safe. C-8 doesn't cause cancer. C-8 is safe. That is not supported by the evidence and it wasn't then either.

What do the government agencies know? What DuPont's telling them, at least for the time.

So what was DuPont advised to say about C-8?

2006. This is going to be an important piece of evidence that you're going to receive in this case. DuPont set up an independent epidemiological review board. This is an -- I think of it as a blue-ribbon panel of scientists who were going to doublecheck their homework and tell them what they should or shouldn't be saying, and to help keep them on the straight and narrow when they're making public comments about C-8. The ERB strongly advises DuPont from saying there were no health effects from C-8. The independent experts say don't say that. There is no support for that.

ERB says, "It's not clear, however, that DuPont has yet put in place the appropriate level of commitment to launching scientifically adequate health studies of potential exposed employees."

The evidence will show that DuPont is saying all these big things about how good C-8 is and how safe C-8 is, and their own blue-ribbon panel is saying you can't back that up, that's not supported, don't say that.

Ladies and gentlemen, those are the important documents and the important testimony that we expect you'll see in evidence in this case. When we're finished here this morning, DuPont's lawyers are going to get a chance to come up and tell their side of the story.

I want to be clear on one thing, and I don't want anybody to misunderstand me. I might get accused of not showing you everything or for leaving something out. Guilty. I didn't. As you have heard, this is expected to be a five-week trial. I didn't think you all wanted to hear a five-week opening statement, and we didn't want to give one.

What we tried to do was to show you an overview, a highlight, of the groups of evidence you're going to hear in this case. And frankly, it seemed painfully long for me and I bet it was for you. So we didn't show you everything. We didn't tell you everything. You're going to get that in evidence as this case goes.

I think of it this way for opening statements. I'm not sure I did a good job of it. I'm not sure I'm capable. But the purpose of opening statements in my mind is to describe for a jury what the picture on the top of a puzzle box looks like. That way as the trial proceeds and you get the little pieces to the puzzle, you have some idea of where to put it. When the evidence is closed and we get to come back at closing argument, then we'll have an opportunity to talk about that puzzle

together after we all know about it.

So I began my section of the opening talking to you about what all chemical companies know, and what some chemical companies decide to do. You've now seen a broad overview of the evidence of DuPont's conduct in DuPont's words. So confronted with this, what does DuPont say about these things?

Well, DuPont says all of those animal tests, they don't really matter. Those dead rats, dead beagle dogs, dead monkeys, they don't really mean anything when it comes to humans. DuPont says those animal tests don't show a direct risk to human health or the environment. We stopped testing before it got that far. We want you to forget all about those animals tests.

DuPont says we didn't tell our neighbors about the C-8 in their drinking water because we're the experts. We know what's best for them. We decided based on our incomplete testing that they were drinking a safe amount of C-8.

DuPont says, yeah, we did consider a lot of options to dispose of C-8 other than dumping into the water, but that was way too expensive from a business standpoint.

DuPont says we just decided if somebody finds out about C-8, we'll say we followed the rules. If C-8 starts hurting people, we'll say we didn't know the health risks. This is all 20/20 hindsight.

DuPont says, yes, it's true that C-8 can cause kidney

cancer and testicular cancer. But Angela and Travis, tell them to prove it caused their cancers. Besides, what's the big deal? Shouldn't they be fine by now? Shouldn't they all be over this by now?

As you might imagine, they're not fine and they're not over it. DuPont's dumping of its forever chemical C-8 visited forever misery on Angela and Travis. DuPont's forever toxin forever changed the Swartz and Abbott families. And to discuss the specifics of how these conscious misdeeds impacted the plaintiffs and their families, I'm going to hand it back to my partner, Mr. Conlin.

Thank you, all.

MR. CONLIN: Your Honor, may it please the Court.

THE COURT: Please proceed.

MR. CONLIN: Thank you. Thank you, again.

I know that was a lot of information that you just saw with Jerome, a lot of evidence that showed what DuPont was saying in 1984, in 1988, '93, '97, and all the years in between and thereafter; evidence that showed all the red flags that DuPont consciously disregarded and all the risks it clearly took with the health of people like Angela and Travis. It was an avalanche of clear and convincing proof. It was. But as Jerome said, it was also just the tip of the iceberg. We haven't even shown you everything yet. And looking over that initial walk-through again, I'm once again reminded just how

simple and straightforward this case really is.

But Jerome is right that the evidence will prove that DuPont is hoping that you disregard the evidence that will be presented and decide the Abbotts and the Swartzes are just fine. They should get nothing. That's what DuPont wants.

But you, the jury, not DuPont, you, you get to decide if Angela and Teddy, Travis and Julie really are fine.

You get to decide that the evidence in this case supports the claim being made that C-8 caused their particular, specific cancers. And you get to decide whether DuPont should reimburse them for that harm. That's what you get to do.

So let's go back to those last two questions which you'll have to answer at the end of this trial. I say the last two because Jerome extensively covered how clear and convincing DuPont's conduct and their conscious disregard was. So those last two questions.

One: Did DuPont's C-8 which absolutely can cause kidney cancer cause Angela's kidney cancer, and how did that affect her and her husband?

And the second question: Did DuPont's C-8 which absolutely can cause testicular cancer, did it cause Travis's testicular cancer, and how did it affect him and his wife?

To answer these questions, let's talk briefly about what happened to Angela and Teddy. Let's talk about what happened to Travis and Julie. Let's talk about it now that you have an

understanding of what C-8 is and what happens when you're exposed to this cancer-causing chemical for years and years like both of them were.

Angela was born just outside of Point Pleasant in 1961. If you don't know it, Point Pleasant is a little place that's probably best known for being the spot where the Mothman appeared like in the '60s and '70s. If you've been to Point Pleasant, they actually have a statue of the Mothman in the town square, and they also have a hotel downtown which I swear is haunted. No one has told me it's haunted, but I'm sure it's haunted. That's off on a tangent.

Angela was born there in that town. And this town is downstream from the Washington Works plant that we've been talking about. It's downstream from the plant where DuPont was dumping its C-8 into the river and spraying it into the air.

Angela grew up at her parents' home. She loved being outside, extracurricular activities, cheering in school and playing basketball. If it was me, I'd probably say she was a little bit of a tomboy, but I don't want her to cuff my ears when I sit back down.

By the time she was in middle school, Angela was confident and joyful. That's when Angela met the boy who would be the man with whom she would spend the rest of her life. They met in middle school. Angela and Teddy, they agreed to have that real-life love story that we hear about in the

movies. They met in junior high, dated in high school, and spent almost 50 years together, with over 40 of that married.

Teddy and Angela, they had two children. A son Travis -- not this Travis. It's totally unrelated. It's just a coincidence -- and a daughter Ashley. And they would continue to grow together, to work and raise their family together just downriver from the DuPont Washington Works plant. Teddy would spend his life working for the power company. And Angela would work, raise their children and spend time with her mother and her sister day after day, year after year.

It was during these times while spending time with family and making an honest wage to help support her family that Angela was repeatedly exposed to cancer-causing levels of C-8 at her job, at her family's homes.

You're going to learn about how Angela's own mother would later suffer from cancer in the early 2000s and how this cancer would claim her mother's life while Angela was taking care of her. I want to be clear on something. The cancer Angela's mom had was lung cancer, is not in any way related to what Angela got. It wasn't related to her kidney cancer or caused by C-8 or anything DuPont did. DuPont is not responsible for her mother's cancer. Both sides agree on all of that, and no one is going to testify any other way.

So the importance of that event in Angela's life is not what caused her mother's cancer, but instead what watching

someone she loved die from cancer did to how she views cancer, how it changed the way she views cancer herself. Because the evidence will prove how this experience of watching her mother die from cancer made Angela even more afraid from cancer than you or I or someone on the street who hasn't experienced it.

You see, as I mentioned to you yesterday when we were doing voir dire, we are a collection of our experiences in life. And everything that happens to us colors how we process and deal with everything else that comes after. Our experiences, they shape us and they mold us, and we live with what happens to us for the rest of our lives. DuPont's own psychology expert, if she comes, she's going to back up that same statement.

So as time goes on, the evidence will be that in late 2016, Angela was at the doctor's office. She was at a doctor's visit and she was told there was blood in her urine and she needed to have more testing.

About a month later, an ultrasound would show a tumor on her kidney. Angela would then see Dr. Morabito. He's a physician and surgeon in Huntington, West Virginia. You'll see his deposition. The parties have taken it. We already know what he says. And Dr. Morabito, he's going to tell you that Angela had a slow growing kidney tumor. He's going to point out the size was the same when the ultrasound was made as what the CT scan showed right before its removal. This is a tumor,

he's going to say, that might have been growing for years.

Angela had the cancer surgically removed with robotic-assisted laparoscopic procedure that cut through the vessels and tissue and permanently removed part of her kidney. And that left her with six small post-surgical scars. That was the procedure.

And Dr. Morabito will testify that Angela has chronic stage two kidney disease after that cancer and after that surgery. And DuPont, they're going to contest this, saying that you should ignore the treating physician and that Angela is just fine.

That's what DuPont is going to say. But that -- that testimony, that is what the treating physician, Dr. Morabito, testified to when both sides took his deposition. And you're going to get to see that for yourself.

And Angela and Teddy, they're going to tell you how scary it was to be told, Angela, that tumor you have is cancer. How hearing "you have cancer" brought back the cancer fears she had from watching her mother die. For Angela being diagnosed with cancer is like a death sentence.

And Teddy, he's going to tell you about how Angela getting cancer was the worst thing that ever happened to him in his life, and it didn't even happen to him. He wasn't the one who even got it. See, this was his childhood love. This was his person. This is who he was. He had been with her longer

than he had been not with her. Who he was was completely entwined with Angela. And he was supposed to be able to protect her and care for her. And now he didn't know what to do to take this catastrophic disease diagnosis from her. And that hurt. That hurt him. It hurt their relationship.

Make no mistake, this cancer was caught before it had spread too far. And from everything we can tell, Angela's other kidney seems to be functioning normally. We are all extremely thankful for that. This could have been worse and it's not. And the cancer has not recurred yet. She is in a surveillance program, as you are after cancer. You get checked every six months and then every year. Since that surgery in 2017, Angela's not had a recurrence. It has not metastasized. It has not popped up somewhere else. We're all very thankful for that, too.

But Angela, she continues in that surveillance program. Remember, this cancer was just diagnosed less than three -- I mean, this cancer was removed less than three years ago. You will learn what it's like leading up to one of these appointments, these surveillance appointments. You go in there and they take your blood and they do your scans and do all the testing, and then you wait. You're going to learn that being afraid of the cancer coming back and waiting for the results and scan and blood work, it's like starting all over again. You're going to hear it's like taking a giant emotional breath

and holding it while you're waiting for that phone to ring, for someone to call you back and say you're all clear. You pray for the best. You fear for the worst.

Even the permanent disfigurement of her kidney and internal tissue is a real physical injury that should never have been thrust upon a person like Angela, thrust upon her for no fault of her own. It wasn't her fault. It wasn't anything that Angela did that caused this cancer. The evidence will show it was all because DuPont wanted to make more money and dump C-8 into the water instead of incinerating it or disposing of it safely. They dumped C-8 in the water Angela would unknowingly drink for almost 20 years.

Dr. Margulis, he is a cancer treater, a board certified neurologist and surgeon. He's one of the experts in this case. He's going to testify under oath that based on his experience and examination that is exactly what caused Angela's kidney cancer. He's going to testify it was DuPont's C-8.

You see, Dr. Margulis went through and looked at every potential risk factor, every potential risk factor that is accepted in the medical community has a potential cause of C-8. He looked at smoking. He looked at workplace exposure. He looked at genetics, obesity, hypertension, race, gender, family history, kidney failure, history of kidney transplant, age, medications, and C-8. He looked at everything that was accepted in the medical community as a potential cause of risk

factor for kidney cancer, and he could rule out every single risk factor except for C-8.

So after doing that, after going through that methodology, he concluded to a reasonable degree of medical certainty that C-8 was the cause. And we don't just have to assume that C-8 was a cause because Angela was a qualifying class member based on that definition we've seen so many times before. Angela's blood had been tested, and it had C-8 in it.

Now, DuPont, when they're going to get up here, they're going to say it had some workers with tens of thousands of parts of serum in their blood. But hear me when I say this. That doesn't mean anything. It's a red herring. It means nothing when it comes to the levels in Travis and Angela because Angela's level, it was higher than 99.9 percent of the people in the United States tested by the Centers for Disease Control during a study they did in 2003 and 2004. No one is going to dispute that.

And just like I told you earlier this morning, no one is going to get on that stand and testify anything else was the cause of Angela's kidney cancer. Let that sink in. You're only ever going to hear testimony about one cause of the cancer, and that was C-8.

So Angela is now a cancer survivor, a cancer survivor because of what DuPont did to her. And unless the cancer comes back - and we pray that it doesn't - she will live with that

for the rest of her life. She will live with the increased risk of more cancer and with the fear, the cancer phobia she has from the cancer she's already got.

When we all leave this courthouse at the end of the trial, when DuPont and its representatives on the table, in the gallery, when they go home, and everybody at the company gets to go back to work like it's just business, not Angela. For Angela, she's changed forever. Because you see, the evidence will prove that cancer is different than other injuries. It's different in the sense that it literally changes every single thing in your world going forward.

When you get cancer, the way you watch TV changes, the way you interact with your friends and the family changes. Your ability to be emotionally intimate with your spouse, that changes. It affects your self-worth. It affects your self-esteem. It affects your rhythms and your confidence, the way you breathe, the way you think, your sense of body, your sense of womanhood and manhood. Every single thing in your life changes after you've been diagnosed with cancer.

You have a new life that's forced upon you, a life you never asked for and that you don't want. It is the hardest, most gut-wrenching, horrific, life-altering thing you will ever get diagnosed with. And that's what the evidence will show and that's what you will hear from these people, from Angela and Teddy.

That is what happens when you get cancer. That is what DuPont did to the Swartz family with its C-8. And it's a similar story for the Abbotts.

Travis was born in 1977.

THE COURT: How much time do you have left? We're ready for a lunch break.

MR. MACE: May we approach?

THE COURT: One moment.

How much more time? If it's within ten minutes, we'll go forward. If it's more than that, we'll come back.

MR. CONLIN: Maybe 15 to 20.

THE COURT: Quick show of hands. Do you want to push lunch back about 15 minutes and finish up this part of it?

All right. We'll continue.

Anybody say no? Okay. Thank you.

MR. CONLIN: Travis was born in 1977 in Gallipolis, Ohio. I've been mispronouncing that the entire time. I'm terrible with pronunciation. I also say Parmesan cheese. It's called Parmesan. Don't hold that against me. I blame that on my mom.

If you don't know where this town is, it's on the Ohio River downstream from DuPont's Washington Works plant. It's right across the river, kind of catty-corner from where we talked about earlier Angela being born. Again, it's just downstream from that same plant that we were discussing

earlier, downstream from that plant where they were dumping C-8 into the water and spraying it into the air.

Travis was the first child for his parents, Roger and Susie. A few years later, Travis would become a big brother twice over to Grant and Carrie.

Travis's mom Susie is going to take the stand during this trial and tell you how her son was a happy and active little boy. He loved animals, was close to his brother and sister, and always playing outdoors, participating in sports and enjoying life. She is going to tell you how close he was with his family and his grandfather, and how even then as a young kid he talked about having kids of his own some day.

You're going to learn about how Travis grew up and went to the local Meigs High School where he played on the basketball team and the football team. Travis loved playing football. It was one of those things that he enjoyed doing most. Again, things in Travis's life were really good and growing up real fast like we all do, maybe too fast sometimes. What none of them knew was by this time Travis had already been repeatedly exposed year after year to DuPont's dumping of cancer-causing levels of C-8 in his water.

Before you could blink, it was the late fall of '93, entering 1994. Travis was a sophomore in high school. He had just finished the football season and had started into basketball. And this is when Travis first started to notice

something was wrong. His left testicle was getting swollen and feeling sore.

So here is this 16-year-old kid, self-conscious, awkward like we were all as a sophomore, just wants to be normal, just wants to get through high school.

You're going to learn about how the embarrassment and worry that Travis started to feel started to grip on him. Is something wrong with me? Will anybody notice this? I hope it gets better. Is it going to go away?

That's what this poor kid was thinking.

Then one day after basketball practice, he's going to the locker room and he overheard the kids talk about one big nut. Now he immediately knew who that was. He tried to put on a brave face and pretend like he didn't hear it, but he was horrified. And this would lead ultimately for Travis to do what no other teenage boy ever wants to do. He walked into the living room at his home, went up to his mother sitting on the couch and said, "Mom, I think something is wrong with me. I think I need a doctor. I think you need to look at something."

Then he pulled down his shorts and exposed himself to his mother, and she knew immediately that he needed help because something was not right. That's what this 16-year-old boy had to do.

You see, Travis, he had a tumor that was covering his left testicle. They didn't know it was cancer yet. You can't

know that initially. But they knew it was not normal. So by May 2nd, 1994, Travis was with Dr. Kauff at Nationwide Children's Hospital right up here in Columbus.

Travis was about to be the 16-year-old kid who would be having his left testicle surgically removed. It's called an orchiectomy. You're going to learn from this case and from the treating doctors and the experts that when you have a tumor on your testicle like Travis had, you don't do a biopsy, you don't need a needle extraction or scan to see if it's cancer. You can do that with some cancers but not testicular cancers.

When you have a testicular tumor, you surgically remove the entire testicle. And then after it's taken out, after you've removed the testicle, then you do the pathology on the tumor to see what it is, because if it is cancer and you try those other methods, the cancer cells can spread into the scrotum and get up all into the body.

So here Travis is, the 16-year-old scared kid getting his testicle cut out and hoping for the best and just wishing he was normal. Asking God why is this happening to me? What have I done?

Unfortunately, this was just the start of Travis's ordeal. The surgeons, after they removed the testicle, determined it was cancer. The surgeons also were concerned about the retroperitoneal lymph nodes. Now the retroperitoneal lymph nodes are found in the area between your kidneys, between

a vein, the vena cava, and an artery, the aorta. These lymph nodes are often the first place that testicular cancer spreads when it metastasizes. So Travis has to have a retroperitoneal lymph node dissection.

This is what you're going to learn about, the retroperitoneal lymph node dissection. A surgery like this is incredibly complex and invasive. These lymph nodes, like I said, they are behind most of your organs. So Travis was laid on an operating table. An incision was made from his sternum all the way down to his pubis.

Next, Travis had that incision pulled apart and all of the internal organs were pulled to the side and pushed out of the way. It's only after that, after all the organs are out of the way, that the lymph nodes can be got to, dissected and tested. It's a big surgery.

Now, fortunately at this time in 1994, the cancer had not metastasized. That was the good news. But Travis now had this scar disfiguring his entire abdomen, and you're going to hear from his mother and him how painful that was, how painful those staples were, how weak he was and how rough the recovery was. His mom is going to tell you about even driving back from Columbus down to the Ohio River where they lived, that hour-and-a-half drive, she had to take him to the bathroom at a rest stop and help him use the public toilet because he couldn't do it on his own.

You're going to hear for weeks after, because he was in so much pain and so incapacitated that he still couldn't do things for himself. This 16-year-old boy, this kid about to be a man, had to have his mother help bathe him and take him to the bathroom.

You're going to hear about how this incision and the physical pain associated with it -- you're going to hear that testimony in this case. You're going to hear about how much those staples hurt and how painful the staple removal procedure was as they pulled out each staple one by one by one. You're going to hear about all of this physical pain, but you're also going to hear about the emotional trauma this was causing, the emotional distress and the emotional damage he was suffering.

You're going to hear Travis tell you about when he goes back to school after that summer, what it was like to be a cancer kid. You're going to hear about the teenage embarrassment that he had being heard that he was being called one nut, how his brother overheard someone Travis was dating telling someone else in the hall that. You're going to hear how emotionally traumatic it is to be wandering around in high school, just trying to get through high school as normal, having the kids whisper at you when you walk into the room or cut those side glances at you. High school is hard enough. No one should have to experience that. But that is what the evidence will prove happened in this case.

On top of all of that, the doctors, they forbid him from playing football again. It's too much a contact sport. And the risk of that when you only have one testicle are too high. Because if you got hit again, you might lose the chance to ever have children again. And since he only had that one testicle remaining, they said you can't do it. Any hard tackle or hit, cleat or elbow, they might damage that testicle and that might kill his hope for making a family of his own one day. That is something he wanted, something he always wanted, his own biological children. And so he decided not to play.

And Travis was placed on a multi-year surveillance program where he was examined first every six months and then every year, similar to Angela's. He was getting the scans and blood drawn, getting poked and prodded every single time. And like with Angela, waiting and hoping when the results came back it was all going to be clear.

But every time during these years there was an ailment, an ache, a strange bruise or a lump anywhere on the body, Travis and his mother - as mother's do - calling up the doctors and saying is his cancer coming back? Do we need to come back in and look at this?

That's just how life was for Travis for the rest of the '90s.

Now, Travis, he learned to live with his diagnosis and took a positive attitude. Every year that the cancer did not

come back, he felt a little bit more normal. Travis graduated from high school. He went to college, got a degree in education. And all this time he continued to come home for the weekends to go to his siblings' sporting events, come back for family functions and just have some good ole home-cooked meals, probably get some laundry done too.

Through all of this, he also continued his post-cancer screening and surveillance. All this while, he kept unknowingly drinking the contaminated, poisonous, cancer-causing C-8 in his water because DuPont wasn't telling anybody.

Finally, by 2004, ten years after his orchiectomy, Travis was told he had no greater risk for recurrence than anybody else in the country. He was back to baseline. He was physically scarred, sure. And he had years of emotional baggage from the cancer, but his future was bright.

Travis came back to his hometown and taught social studies in the local school district, the same schools he attended growing up. He coached the basketball team and he mentored the academic scholars-bowl team. He went and got his master's and he was making the best of his life. That's what you want for somebody.

A few years later and just past 30 or so, Travis was in Cincinnati with his brother for a Reds game. After the game, he and his brother went to a local watering hole, and while he

was there he spotted an attractive young lady across the room. I bet you can guess who that is. It was Julie.

Now, I'm going to let them tell you more about how they met, how that romance bloomed and the love and marriage and the talks they had about their future and the life they wanted to have and the married life and the family they hoped to have together. But the end result is they got married in 2013, and they later moved just down from Travis's parents' home, down to southern Ohio.

Travis was a teacher and Julie was a speech pathologist, both working with kids and both working in the school system. Life was bright and they were enjoying a few years together as husband and wife before they started their family. And then everything went wrong again for Travis.

In 2015, Travis had just got a promotion to principal at his school. Late in October he started to feel pain in his right testicle, his only remaining testicle. Travis went to the ER. The ER sent him to a local urologist, to Dr. Wiseman who said he had a tumor and there was a strong likelihood it was cancerous.

Of course, there's no way to be certain it was cancer until after the orchiectomy. We heard that. And the pathology was done after he removed the testicle. But the doctor was worried and Travis was worried. You're going to hear from Travis and Julie about the tears they shed and the worry they

had. Travis had been all through this once before, and he knew what was in store for him. He knew that even if it was not cancer, he was about to be castrated. He was about to have his only remaining testicle surgically removed and he would be placed on testosterone treatment for the rest of his life. That was the best case scenario.

So Travis, by Dr. Wiseman, he gets referred to the specialist in Indiana at the Indiana University. And Indiana University, IU, is the center of the world when it comes to testicular cancer treatment. That's the way DuPont's expert explained it to me when we did the deposition last summer. It is the center of the world. It is where the present orchiectomy procedures were pioneered. It's where Lance Armstrong went when he had his cancers. It's the center for excellence. And there Travis was treated by Dr. Masterson and Dr. Albany. And you're going to hear from them during this case. Again, their testimony has been taken and it's by video and you're going to see it.

And they're going to tell you about what Travis went through, the surgery they performed to cut out his testicle, how they used the pathology to confirm it was cancer, and how they shared that horrible news with the Abbotts and how they put him on the cancer surveillance program that Travis is still undergoing to this day.

You're also going to hear from Dr. Kovac and Dr. Will.

These are the fertility experts who treated the Abbotts. They will tell you about the sperm extraction they performed and the in vitro fertilization they tried. They're going to testify how the tumor was blocking the sperm before the orchiectomy, that they had one shot of extracting enough sperm from the one remaining noncancerous testicular tissue to try IVF, and that Travis's sperm looked normal under the circumstances, and that Travis's sperm was ultimately able to successfully fertilize six of Julie's eggs.

But the final two embryos that made it through the IVF process were aneuploid, and that sometimes happens in IVF. That just means they couldn't be reimplanted and taken to term.

You're going to learn how the Abbotts' one shot of having a joint, biological child together failed and how devastated they were, that despite Travis's sperm to be able to successfully fertilize their eggs, they only had that one shot because he had no more testicles.

You're going to hear about that attempt and the hardship Julie had to go through during that IVF and the strain it put on both of them and their marriage.

Now, I can't do it justice so I'm going to let them tell you. But you'll also hear about the donor sperm that was ultimately used so Julie could get pregnant and about how much they both love that little girl. Estelle. Her name is Estelle.

And make no mistake about this. Travis has given his whole heart to that little girl. He loves her as much as any man who could love any daughter ever. I've spent time with them. I've got two girls. Nothing changes. He wouldn't change a thing in his life just to have her there. But Travis's love for Estelle does not change how the chance of ever having a part of himself live on after him, of ever having the ability to see his own face in another generation, how that all died after that day on November 16th, 2015.

That's the day that DuPont killed a little something in Travis with its C-8. That's the day the company killed his hopes for the future. I've heard it in a movie before. Hope is a good thing. Maybe the best of things. But in 2015, that hope of Travis and Julie was killed by the C-8.

You're also going to learn that in the midst of all of this, the monitoring, the testosterone, the fertility treatments, the attempted IVF, that during one of their scheduled cancer follow-ups almost a year to the day of his 2015 orchiectomy, they learned that Travis's cancer had metastasized. It had come back and it was in his lymph nodes.

Travis had to go through that terrible retroperitoneal lymph node dissection again just like when he was a kid in high school. This time they pushed the organs up into his chest cavity instead of to the side before they removed the lymph nodes. But the pain and the trauma and the recovery

experiences are all sadly the same. The difference though this time, instead of his mom taking care of him, it's his wife who is taking care of him.

And you're going to learn how even following the months' long recovery from the surgery, Travis and Julie still live with fear. How Travis's testosterone treatments are necessary to keep him virile, but how those same treatments mess with his emotions, how his behavior goes up and down based on his levels, how Julie tries to manage that and how all of this affects their relationship.

Travis is 42 years old today, and every day he worries about what comes next. Every day he worries about what the C-8 caused cancer has done to him and what might do again. He's still in that surveillance program just like Angela. He will be after this trial is finished and we all go home. Travis, he lives with this every day. Julie, she lives with this every day.

And Dr. Pohar a surgeon, a board certified oncologist and a doctor from the Ohio State University Cancer Center right up here in Columbus is going to tell you based on his experience and his examination of the facts in this case, that these two separate primary testicular cancers that Travis had were undoubtedly caused by his C-8 exposure. The C-8 that DuPont forced upon Travis when it poisoned his water for all of those years, he's going to say that is the cause.

Dr. Pohar went through and looked at -- just like Margulis for Ms. Swartz -- he looked at every potential risk factor. He looked at undescended testicles, HIV, his mother's clomiphene use, family history, personal history, intratubular germ cell neoplasia. He went through all those known risks and included C-8 in them. He looked at each of them and was able to rule out every single one of them except for C-8. And because of that, he was able to conclude to a reasonable degree of medical certainty that C-8 was the cause. C-8 is what caused both of Travis's testicular cancers.

And just like with Angela, no one from either side is going to get on that stand and testify that anything else was the cause. And just like with Angela, you do not have to just assume C-8 was in Travis's blood. Lab results that were done for Travis showed it was in his blood. And just like Angela, Travis had more C-8 in his blood than 99.9 percent of the people the CDC tested in the United States. 99.9 percent.

So, remember, when DuPont and its representatives at this table go home after this trial, and everyone at that company is able to go back to business, just like Angela, for Travis this is forever.

The evidence will prove that he and Julie have to live with what DuPont did, to live with the cancer fear, the continued monitoring, the testosterone therapy mess, the lack of any testicles, and the inability to have biologic children

of their own or together. They have to live with that. They have to live with all of that for the rest of their lives.

So you see, we're right back to where we started this morning. The evidence will prove that all three of the questions you've been asked to answer in this case, they've already been answered. The evidence will prove what we - DuPont and us - already have known before you were ever selected for jurors. DuPont acted with conscious disregard when it dumped its C-8 in the community drinking water, and this caused Angela and Travis to get cancer. The case is that simple, and the facts are that clear and convincing.

I told you at the beginning that even though the evidence is clear and that the case is simple, we're here because DuPont has not accepted any responsibility for what they did to Angela or Teddy Swartz or what they did to Travis and Julie Abbott. None. That is what the evidence has and will prove.

Don't get us wrong. Like Jerome said, we fully expect that DuPont will get up here in a few minutes and say they're sorry for what these people have gone through. I'm sure they're not going to label them receptors now that you good folks are here watching them.

But anyway, they're going to say I'm sorry, but. I'm sorry, but they are not going to take responsibility. The evidence has shown us that. That's how DuPont ticks. When

someone says "I'm sorry, but," I was always taught it doesn't really mean you're sorry. It means you're looking for an excuse, looking for an excuse for why it's not your fault. And this company, it always has an excuse at the ready. That's what the evidence will prove. They always have an excuse, but they're never the problem.

DuPont is entitled to its day in court. That's why we're here. They're entitled to a fair trial. That's why you're in that box. And it will get both because you are going to weigh the evidence and give the verdict that evidence demands. Our side, we have absolute faith in that.

And the evidence will prove that after DuPont consciously poisoned the water with C-8 for decades, after it consciously increased how much it was dumping into the surrounding communities while internal voices -- remember Dr. Karrh, remember that lawyer -- while internal voices in the company were asking it to do the opposite, after it repeatedly disregarded the science with profit and blinded eyes, after it disregarded any obligation to tell the community about all the C-8 or any risks of it in their water supplies, when they did that, DuPont crossed a line. Like the company said in its own documents, "We'll wait until we're sued."

That's why we're here.

The evidence will prove that to DuPont, Angela and Travis really are just two more receptors whose dots they need

to try and not let get connected back to them.

At the end of this trial, the evidence will have clearly and convincingly shown that DuPont consciously disregarded the risks to the health and safety of the community from their dumping of C-8. And this resulted in Angela's and Travis's cancers and so many other related harms suffered by these two great families.

At the end of this trial, the evidence will have also clearly established the true value of the damages in this case measured in terms of human harms and losses: The physical pain, physical injuries, the surgeries, the emotional distress, the recoveries, the scars, the cancers themselves and the emotional distress those cancers caused, the days and nights of worrying and crying along with their very real fears of cancer recurrence and all the other losses and lost opportunities these people, these strong people, and their spouses have.

When we have shown you all the evidence in this trial, and after we have heard all of DuPont's excuses and carefully selected soundbites, we're going to come back up here and ask you to finally tell DuPont that it is responsible for Angela's kidney cancer. We're going to tell you -- we're going to ask you, I'm sorry, to tell DuPont that it is responsible for Travis's testicular cancers. We're going to ask you to tell DuPont that it is responsible for the harm it also caused to their loving spouses, Teddy and Julie.

And we're going to ask you to tell DuPont that the evidence has proven it is responsible for acting with conscious disregard for all of those years and years and years. We're going to ask you to return a verdict that tells DuPont the value, not the price, the value of the harms that it has inflicted upon the Abbott and the Swartz families, because no price is enough to give someone cancer, to swing a wrecking ball through their lives and their families and then act as if it's all okay, just business. That will never be okay.

So with that, I thank you again. Thank you very much for your service, and we look forward to showing you the evidence you need to answer those three questions in this case and to see everything that DuPont did to Angela and Teddy and Travis and Julie.

THE COURT: Thank you. We'll now take a one-hour break for lunch. We'll see you back here at 1:35. We'll be in recess.

(Jury out at 12:35.)

(Recess taken at 12:35 p.m. to 1:36 p.m.)

Wednesday Afternoon Session,

January 22, 2020.

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(Jury enters at 1:36 p.m.)

THE COURT: We are now going to hear opening statement from DuPont. You may proceed, Mr. Mace.

MR. MACE: Thank you, Judge. I'm going old school, Judge, so you said I could stand back there and use the ELMO.

THE COURT: For the younger members of the jury, there is also a thing called a post-it board here. You may have never seen it before. I'm just kidding you.

MR. MACE: That's good. I was actually going to use that as well. I think that's point two of my logistics.

You may recall we've got this timeline, and I'm sensitive to the juror over here, but my thought would be kind of put it over here, and hopefully I won't knock it over. I'll leave it there. If anybody needs it moved, let me know.

Ladies and gentlemen, I'm glad you are here. We need your help to resolve a dispute, and that's exactly what our American system of justice is about.

You've heard some things. We're going to give you an overview of what we think the facts are going to show in this case.

You've heard my name. My name is Damond Mace. I've lived in Ohio my whole life, except four months when my dad was

stationed in Fort Knox. My dad was a carpenter and draftsman. He is the one that got me interested in science, and he got the "Popular Science" magazine. My mom, she was a registered nurse for 35 years.

But I had the privilege of going to college, the first one in my family, and I've had the fortune to be a trial lawyer for 35 years, and the good fortune to be going around Ohio to talk to people like you in various counties and just seeing firsthand how this system of justice works.

And we've all mentioned it. We thank you so much for your coming here. We know this is a huge inconvenience in your lives.

I commit to you we're not going to waste your time. Me and my team, we're going to try to focus on the facts that you need to make a good decision in this case. And the Court and his staff are phenomenal for the jurors in trying to keep the inconvenience to a minimum. We'll try to do our part for that as well. I do appreciate your being here.

Everything that I say to you today, everything I say to you and my partners, Aneca Lasley and John Burlingame, is going to say today is going to be backed up by documents and by witnesses.

I'll apologize to you right up front. I know it's going to seem you are drinking through a fire hose a lot of the time.

You've got a lot of information already. I need to show

you a lot of information. It's not with the intent that you are going to memorize it all. Don't feel like you have to take notes. If you want to take a note, fine.

But as you've seen in this trial, there's two sides to the case. The plaintiffs always get to go first. Always. They got to go first in jury selection. They got to go first in opening statement. They get to put their witnesses on first. We have to wait.

And this isn't like CNN or Fox News. This isn't a bunch of talking heads where we interrupt each other, talk over each other. We just sit here politely and wait our turn, and that's what we're going to do.

But you are not going to hear our side of the story, the rest of the story, for two weeks probably. So I need to get you a little bit of information just so it's at least in the side of your mind as you are hearing what the plaintiffs present to you, because it's very important, I think we'll all agree, that you listen to things in context.

And I'm going to apologize in advance. I'm going to use the ELMO we call it, a document camera. I'm going to use the whole document. I'm going to give you the whole document. I can't show you every page. You are going to have it with you when you are in the back of the courtroom. Rather than do call-outs, I'm going to show you all the documents.

I heard Mr. Tapley and Mr. Conlin. These are good

lawyers, very good lawyers, and I like them. They are very nice people, and I've heard what they said. I sat here and listened to it as you did.

And, you know, I'm sure you've got some questions in your mind after listening to what they said, and I'll be the first one to acknowledge to you, standing here right now, are there things that DuPont could have done differently? Yes. Are there things they could have done sooner? Yes. Are there more things they could have done? Yes.

But that's not the issue for you to decide in this case. So we each have our roles. I told you my role and my team's role is to give you the information you need to make a good decision.

Your role, your job, which the judge has described, you are the judge of the facts, and you are being given two primary issues that you need to decide: The first one deals with DuPont's conduct. And you are going to see what the relevant years are that you are evaluating it.

You are going to get a lot of information about what was known at that time, what was the scientific evidence at that time. What not only was DuPont saying in its internal documents. What were the third parties saying that were evaluating the same evidence? You are going to hear about that.

But on the conduct, you are going to hear the standard.

There were a lot of words thrown around. You are going to hear the standard that you are holding, you're evaluating to, is actual malice. Actual malice. That's what you are looking for. Not negligence. Not "should have known" something. Not "should have done" something. Not was there more that could have been done.

It's what did DuPont believe and did it really believe that the C-8 that it was using in its plant would injure somebody like Mrs. Swartz or Mr. Abbott who lived 40 or more miles down river away from the plant.

Did they really know that? Did they believe that? Because the word kept being used, "conscious disregard." It's not "should have known." Conscious. They knew. They knew it was going to hurt somebody, and they didn't care. That's what they are claiming.

If I seem a little offended by that at times, you'll see why.

The other issue you need to decide is whether the specific cancers that are being claimed by Mrs. Swartz and Mr. Abbott were in fact caused by C-8 or would they have occurred anyway even without exposure to C-8.

Those are the two things you are going to be looking at as we go through this. It's probably good if we -- if you would come back with me now and look at a little background and then a little bit about the case.

You've heard this case involves the Washington Works plant. Here's a picture of the plant. It's a very large plant, about 2,000 acres. And over time, it ranged from 1,500 to 2,000 employees, so a really big plant. It's across the Ohio River in West Virginia.

And in terms of the location of the plant -- keep that in mind. Let me zoom this out a little bit.

So there's obviously Ohio and West Virginia, and, you know, we're over here in Columbus. The plant is right here on the West Virginia side. It's kind of down by Marietta, across the river from Marietta, Ohio. So that's where the plant is located.

Now, you are going to hear and see the evidence, ladies and gentlemen, that many of the managers and supervisors of the plant lived right by the plant, lived within 5 to 8 miles of the plant, and you are going to hear that there were many, many different products.

The focus on this case is going to be on the use of C-8 to make Teflon. That's the focus of this case.

A little bit of background, at this very large plant, there were many different products made at the plant. For example, one was Delrin.

Delrin was a polymer that goes between the panes of glass in your windshield, and the purpose of it, among others, is that when a glass shatters, like this one I've got, it

doesn't break into a bunch of pieces. It's kind of glued or bound to the inner layer so it doesn't cause as much injury in car crashes. So that's Delrin. And then many other things. There was -- actually, that was Butacite. I misspoke. They have fancy names for everything.

Delrin is made for seatbelts and gears and electrical motors. There's a filaments division there that makes fishing line and various things.

There's Zytel, which is a plastic used in automotive hoses and cables, also used in roller skates.

But you are going to hear a lot about the Teflon area, where C-8 was used. We'll talk a little more about it later.

But as counsel mentioned, what C-8 was used for was to help things mix together. It wasn't an ingredient used in making these things that was going out the door. It was something used at the plant to help things mix together while they were making things.

But Teflon, I think some of you are familiar, is used in plumber's tape, more than 50 automotive applications, in cabling and hoses and things, non-stick coating for pans and other things, carpet stain protection.

But one of the things that -- in terms of the background at this plant and the different areas of the plant that -- you'll see why it's important later as we get into the evidence. So this is an overview drawing, the layout drawing

of the plant, and in terms of where the C-8 was used, the area of the plant where it was used, you are going to hear a little bit about Buildings 163 and 162 up here.

So, in general, it's a very big, huge plant with all these different products being made in different places, and as you can imagine, hundreds of different chemicals being used in this plant.

Teflon was primarily used in that area up here. It's about a quarter of the plant, about a quarter of the plant, so about three quarters of the plant was not using Teflon, wasn't using C-8.

Now, the plant generally did not make products that were sold to people. The plant made products that were sold to other companies that then made other things. Like Gore-Tex.

One of the customers was Gore-Tex -- because things made with C-8 were very good at stain resistance, water resistance, and so the Gore-Tex line of clothing that protects you from rain and soil and things, those are made as a result of things that happened at this plant.

So C-8, you've heard that this case is about a specific chemical called C-8. And C-8 was a chemical that was not -- never made at this plant. Let's keep that straight. C-8 was never made at this plant, and it was invented not by DuPont. It was invented by 3M back in the 1940s. Way back in the 1940s, 3M invented it.

3M, the company, Minnesota, you know, scotch tape, masking tape. They make all kinds of things as well. Post-it notes. And 3M not only invented -- invented the C-8, it also used it itself. It was using it at its factories, its plants, including a huge plant in Minnesota that employed more like 4,000, 5,000 people.

They sold it to DuPont. You probably have been wondering, did they sell it to anybody else? They sold it to many other companies. There were many other companies that used C-8, both across the United States and across the world for decades, for decades. There were many other companies that were using C-8 across the U.S. and across the world.

These are some of them.

So what is C-8? You heard a little bit about it. A surfactant, a term that was used, like a soap. So surfactant helps things mix together. We're all in agreement on that. Kind of like the Tide laundry soap you wash your clothes with, kind of like the Dawn Liquid you might wash your dishes with.

It's made up of common elements you are going to hear. Here's a periodic table. It means some of us -- I was probably more interested than most people, but -- I like chemistry, but in high school chemistry, you probably all saw the periodic table, but there's only four simple elements, common elements that make up C-8 -- hydrogen, carbon, oxygen, and fluorine.

And some of you are familiar with fluorine or fluoride.

It's intentionally added to water and to toothpaste to help against tooth decay and things. It's found naturally in the soil, the water, the foods. In fact, it's the 13th most abundant element in the Earth's crust.

MR. CONLIN: May we approach?

THE COURT: I'll see you at sidebar.

(The following proceeding was held at sidebar.)

THE COURT: You didn't like the chemistry lesson?

MR. CONLIN: We're trying to give him a little bit of leeway. He's going to start talking about these other organic components of C-8 and how they are used in the water and they are safe. That's not --

MR. MACE: Not going any more on that.

THE COURT: You know, this is -- everybody gets to put their spin on it. They may have one effect separately. They may have a very different one if they are put together differently. So let's save that for the case in chief.

MR. MACE: Okay. Thank you.

(The following proceedings were had in open court.)

THE COURT: Mr. Mace, you may continue.

MR. MACE: Thank you, Your Honor. So one of the issues you might be curious about in terms of this chemical and the fact that 3M made it and then they started selling it to DuPont a few years later was, was there any reason -- you are going to hear about this at trial -- was there any reason for

DuPont to have suspected that C-8 might be, for lack of a better word, some bad actor, and something that might cause harm to other people? You are going to hear about that.

The reasons that made C-8 so useful at plants like DuPont's plant and plants of the other companies is that it was nonreactive, inert, and extremely stable.

I mean, basically, this little thing liked to stay by itself. It didn't like to interact with other things. It liked to keep them mixed together, but it didn't interact with them. It had some unique properties like that. It just liked to hang around by itself.

"Inert" means it doesn't interact with other things. "Stable" means very good at heat resistance and all kinds of other resistance properties that actually come out in some of the properties that were made with it that made it so valuable.

So you are going to hear about that. You are going to hear about the fact that the human body needs surfactants and that the structure of C-8 is a lot like some of the natural fatty acids that are commonly found in our body.

So that's what -- kind of the starting point, and, you know, the evidence will show there was no reason to expect harm from this chemical.

And as we talk about the background, you may be wondering, you know, what was it that other people wanted that was being made at the Washington Works plant using the C-8 as a

processing aid.

And it was these unique properties -- heat resistance, stain resistance, lack of conductivity. It's used in a lot of cabling, a lot of high applications.

So just briefly, you know, medical gowns are treated, a semiconductor manufacturer, aerospace, both space and airplanes, construction, the cabling, the cookware, carpets, all kinds of different uses in products.

Counsel talked about, well, the emissions went up over time. Well, with the expansion of cell phones and some of the needs for some of these products, production did increase.

I mean, there's military applications. It's used in fighter jets. It's actually in some products that were made -- being made using C-8 on the Mars Rover. We talked about the clothing, the computer chips. So many, many, many benefits to society that came from the use of C-8.

So in terms of chemicals, chemicals --

THE COURT: One moment. Let me see you again at sidebar. You may stand if you wish, ladies and gentlemen.

(The following proceeding was held at sidebar.)

MR. CONLIN: Your Honor, he's been doing it in other trials. He talks about the benefits of using -- this has been brought up in other trials where DuPont tries to make this a case about how great the products made from C-8 are, and consistently this Court has said that's not what we're here

about, so I'm kind of surprised we're doing it now.

THE COURT: My question to you is, when we do the negligence analysis, the benefits might have played in but we're past that.

MR. CONLIN: Right.

THE COURT: So what's the argument?

MR. MACE: I'm sorry, Your Honor. It was just some background, background -- just to give the jury some background before we jump into the documents. I'm done with it. That was all I was going to do.

THE COURT: All right. If we're done with it, I'm okay with it. We'll go forward.

MR. MACE: Thank you.

(The following proceedings were had in open court.)

THE COURT: Mr. Mace, you may continue.

MR. MACE: Chemicals are all around us. Some of you may be aware chemicals are around us everywhere.

The finish, the finish on our woodwork, the tables, the glass, everything around us, we're surrounded by chemicals. So some people just fear that word -- chemicals. Chemicals. Chemicals are our life. That's what we're surrounded by.

You know, in terms of the chemicals that are used in industry, some context in that, you are going to hear about that there's probably about 400,000 different chemicals that are used industrially, about 90,000 that are in common use, and

only about 10,000, about 10,000 that have gone through toxicology testing to try to do a little more research on what do they do.

But DuPont did more than that, you are going to hear, and it came in part because of DuPont's history.

This company, DuPont, started in 1802 -- 18, not 19. 1802, the DuPont company started, and it started out as a black powder explosives manufacturer. And part of this testing of things came from that history, because they had concern even back then about trying to make sure their employees were safe, the neighborhoods were safe.

When they designed their plants way back then, they designed them such that if there was -- if something happened, there was an explosion, the course of the explosion would be directed away from where people lived.

So that's kind of just part of the background, and they wanted -- companies wanted -- it's in a company's best interest to have healthy workers and to have healthy environments around their communities.

They wanted healthy workers that are going to stick around a long time. You train somebody; they want them to be there and work. They obviously don't want Workers' Comp claims or other claims, and they want people to be healthy and happy and productive.

Now, you are going to see that DuPont was one of the

very first companies to set up a toxicology laboratory, and "toxicology" is a big word. It's the field of science that helps us understand the harmful effects of chemicals and how they can be handled safely.

But way back in 1935, DuPont set up something called the Haskell Laboratory, and in fact it was the very first one of its kind in the entire United States. It was only the second one of its kind in the entire world, Haskell Laboratory.

You are going to hear a little bit about that in this case, about how they employed many, many, many, many very educated scientists, toxicologists, epidemiologists. Epidemiology is the study of people. Medical doctors, actual M.D.s. People that are experts in risk assessment.

How do you -- we're going to talk about risk assessment in this case. People that are experts in industrial hygiene. How do you measure for things. What are people being exposed to. Just all kind of different fields all at that Haskell Laboratories.

Again, you are going to hear, totally separate from many of these business units -- and the way DuPont worked, they've got these different business units, but Haskell Laboratory was off by itself. It wasn't tied to any of the businesses. We'll talk about that in a minute.

So Haskell set up in 1935, more than 30 years before any of the public agencies, EPA, OSHA, NIOSH, more than 30 years

before they were even around. DuPont was not required to do that. It set up Haskell so it could try to look at the chemicals that it made and the chemicals it used to get a sense of how safe is this, what are the conditions for safe use.

Now, how are the chemicals tested? We heard a little bit about that from the plaintiffs' statement, but most often it's done with animal testing.

I'll apologize right now. Some people are more sensitive than others to animal testing and things. That was the way it was done historically, so we need to talk about that a little bit, but I apologize if somebody is sensitive about animals being tested. But typically it's done with animal studies, and you are going to hear about some of the typical screening tests that are done when a chemical is being tested, and you are going to hear about the massive -- and I use that word carefully -- massive doses that are given in these animal tests.

Usually, the first test or among the first three is something called an LD50 test -- lethal dose 50. If you don't kill half the animals, you didn't do the testing. They tried to give them a massive dose to see what effect, if any, it's going to have, and they keep giving them more and more and more until they can kill half the animals, and then they back off of that. They give them a little less, a little less, a little less. Okay. Here is the no effect level or the lowest

observed effect level.

So you are going to hear about low Ls and no Ls. Basically, it's what amount can we give to an animal that has no effect, and then when they are setting these guidance values, they don't set the exposure levels at that. They put on safety factors. We're not going to let humans get exposed to that. We're going to back it off the safety factors and set the standard way down before we saw any harm to animals.

So one of the things to keep clear, you are going to hear about at trial, the purpose of these animal tests is to create a result. They are not surprised when they see a result. They are giving them very high doses to get a result.

Now, you may be wondering, did DuPont do some testing on C-8 after it started using it? And, yes, they did test as they did it with most chemicals. There's nothing unusual about the fact they were testing C-8. They tested most, if not all, of the chemicals that they used.

So they did do some tests right back in the 60s. And unlike many companies, that was a routine part of what DuPont did, tried to test things and be sure that they were protecting health.

And, you know, one of the early tests, we'll start getting into some of the documents, back in the 60s -- let me show you something P1 -- P1.353, C-8 toxicity studies, and again these are the documents out of old ancient files of

DuPont. So acute oral tests on rats done in 1961 by Haskell Lab showed C-8 to be slightly toxic, same toxicity as table salt or aspirin.

So a couple points here. One, this animal testing is used to look at the different routes of exposure. One of the things you are going to see is that, with regard to all of the animal testing, there was more sensitivity to skin exposure, to inhalation, but oral was the lowest. That was -- it wasn't as toxic for oral, and that's what the plaintiffs are claiming here, is oral ingestion of C-8.

So with the various tests that were done, oral was the least, and in terms of what they believe, you are not going to have to guess about that because you have these internal documents about that.

But slightly toxic. About the same toxicity as table salt or aspirin.

Now, one of the things we're going to have to get clear on is the word "toxicity" that's thrown around, but toxicity is kind of like cold, if it's cold in Columbus. You might get a different answer on January 22nd than you would on July 31st. I mean, what's cold in July is not what's cold in January.

And the same thing with toxicity. It's at what dose. It's at what dose is it toxic. How much of it creates harm? That's one of the things you are going to have to think about that. So you'll hear some typical safety factors.

Oops. Let me zoom back out here. If I reduce something, you can't see it, raise a hand or something, get me back on track. These are just some common things we encounter every day -- water, salt, sugar, aspirin, caffeine.

Now, what we've got up there is the normal daily dose, the normal daily amount the average person would encounter, and then each one of these things, it may be of no surprise to you, can kill you. Each one of these things can be lethal.

And then what's the usual safety margin for these things that are around all the time? 10X, 21, 45. So 10 to 50 levels of safety factor between where it could kill you or how much you are allowed or the common person gets exposed to, and we're going to talk about some of the safety factors that DuPont set in an effort to be cautious and prudent with this chemical.

And, you know, let's get back to, you know, one of these, and we saw it in the document, aspirin, you know, if -- the wonder drug.

So the internal documents, right from '61, both toxicity, like aspirin, and we all know you take a couple aspirin, it might be of benefit to you. Maybe it gets rid of the headache. You take one; it might not do anything. You take the whole bottle; it could kill you.

But what you are going to have to be focused on as you listen to the evidence in this case is try to think about, put yourself in the shoes of DuPont back in the time period that

we're talking about, and take -- we can all imagine, with an aspirin, we can all picture taking that, cutting it in half, a quarter, an eighth. Think about cutting it into 100 pieces. Think about cutting it into a thousand pieces. Think about cutting it into one million pieces, one part per million. And then think about the terms we're going to translate things into in this case, parts per billion.

Cut that little guy into one billion pieces. Those tiny little specks. You wouldn't even be able to see them, how small that is, and you are going to have to consider whether DuPont back at the relevant time period believed that such a little amount of C-8 would cause harm to somebody who lived 40 miles away from the plant.

Now, I told you we're going to try to translate things. I'm sure we'll forget from time to time.

MR. CONLIN: Your Honor, may we approach?

THE COURT: I'll see you at sidebar.

(The following proceeding was held at sidebar.)

MR. CONLIN: Our concern is with how he finished up with the slide. The indication is they are going to get more into this idea of 40 miles downstream.

The only thing before the case at this point is the conscious disregard or the -- potentially for the punitive damages in terms of liability, and that's how they were consciously disregarding health and safety of the class

members.

That's not necessarily 40 miles down the river. That's just across the river. It's everywhere in those water districts.

THE COURT: Well, you know, the -- it goes to the issue of negligence, which is off the table, but I assume it also goes to conscious disregard. So, I mean, we're mixing these together so --

MR. CONLIN: I'm just concerned -- as he went through it, we didn't -- how they are cutting up the aspirin, that wasn't the objection there. It's when he says should they have expected 40 miles down the river -- we just don't want that to keep coming --

THE COURT: But, I mean, you would argue that wouldn't have something to do with conscious disregard?

MR. CONLIN: I think the conscious disregard is what they did. It is their conscious disregard for the health and safety of the community around them. 40 miles and 4 --

THE COURT: Would you agree or disagree there's still a causal aspect to it?

MR. CONLIN: I don't know. There's no causal aspect at all in this case because the causal aspect, that would go toward general causation. The specific causation is they met the threshold and did it cause their cancer. The distance has no causal relation to the cancers.

THE COURT: I see a lot of arguments against the distance, but I wouldn't say it has no relationship, would you? Do you seriously contend that?

MR. CONLIN: In terms of serious causation?

THE COURT: No. In terms of any triable issue, including conscious disregard.

MR. CONLIN: Again, our position is the conscious disregard for the entire community of how they acted.

THE COURT: I guess what I'm trying to say is you can argue to the contrary, there's no question about that, but I think it's in the mix right now, so I'm not going to strike it.

MR. MACE: Thank you, Your Honor.

(The following proceedings were had in open court.)

THE COURT: Mr. Mace, you may continue.

MR. MACE: Thank you. Ladies and gentlemen, as I mentioned to you a minute ago, the documents are going to have different numbers and symbols and various things on them.

We're not going to try to make you chemists or anything else, but we're going to try to translate things so you are comparing apples to apples.

So many of you already know, and I'm not trying to state the obvious to you, but just so everybody is on the same page, some of the earlier documents are written at a time when people really couldn't even think about a part per billion. I mean, that was the smallest thing -- just like we used to think the

atom was the smallest thing, then it was the proton and neutron, and then they are talking about quarks and things I haven't even kept up on.

But back in the day, a part per million was a pretty darn small thing. As time goes on, people start talking about parts per billion. So just so we keep on the same page, one part per million is the same as 1,000 parts per billion.

So, as we go through the documents, even today I'm going to try to translate it for you. I'll do it expressly at first, if I remember, but I may just -- you may see something in part per million, why is he saying thousand. That's because I'm translating to a part per billion.

So I'm not trying to give you, you know, Chemistry 401 here, but this is a basic concept that -- throughout the trial. If you could please make the effort, I know you will, to keep things in context, and compare apples to apples. It's important.

All right. So what was C-8 used for? You heard, a processing agent. It wasn't an ingredient that went into the Teflon. It helped them make the Teflon. It helped all these other ingredients stick together so they could make the Teflon polymers.

And it's kind of like the Jet-Dry you might use in your dishwasher. It helps you get the job done, but it's not really the ingredient that's going to get into your dishes. Or if you

use cast-iron skillets, spray some Pam on it, it's a processing agent. It helps you get a job done.

Now, when did DuPont start using it? This is where -- hopefully, I don't injure anybody or myself.

So we've got the timeline, just because one of the biggest things that we're going to have to keep in mind as you are evaluating DuPont's conduct, what did DuPont know, what did DuPont believe when, and why, and what were third parties doing.

I apologize to my people in the audience, but the people that matter are sitting right here.

So the timeline. And back in the 1940s, not even on this graph, that's when 3M invents C-8, back in the mid 40s, and DuPont Washington Works starts using it in around '51, '52, in the early 50s.

And that was back when -- probably some of you probably weren't born then, but a gallon of gas costs about 19 cents, instead of the $2.40, $2.50 we pay today, so way back in time, but so how was C-8 used?

So 3M is shipping 100 percent, so 1 million parts per million or 1 million parts per billion, and here's a concept too that you are going to hear that initially it was powder. It was a powdered C-8 that was sent, and it came in these drums. They are called fiber packs.

But in terms of how the employees used it at DuPont,

they would basically reach in, take a teaspoon, a tablespoon of C-8. It's a powder. Put it in a big vat. Add about 800 gallons of other things to it. Mix for 45 minutes. Rinse and repeat. That's what they were doing. That was their job for 12 hours a day, and so they are dealing with the pure 100 percent C-8.

Now, over time you are going to hear that what happened was in terms of reducing the employee exposure, they went from these drums, these cardboard drums where it came in a powdered form to these totes, liquid totes, because again you are going to see that skin -- skin exposure was viewed as a riskier thing and something to be avoided and inhalation, inhaling that dust.

So in about the 80s, they went to the liquid form, where it was premixed by 3M before it ever got to DuPont's plant, and they would have these totes that they would use, kind of a closed system.

Now, you may be wondering, did those -- did those packages that DuPont was getting back in the 50s, the 60s, the 70s, did those have warnings on them? Did they come with an MSDS sheet? No.

In fact, you are going to hear that the OSHA did not require material safety data sheets, MSDS sheets, in the manufacturing industry until the mid 1980s. So nothing, no warning, no MSDS sheets, no nothing, all those decades.

And you are going to hear that DuPont used this

100 percent C-8 on a daily basis every day, every year, '51, '52, '53, '54, all through the 50s, all through the 60s, all through the 70s, and they didn't see any issues with employee health then, didn't see any issues with employee health.

And this was back in the old days. I mean, back when chemicals and things weren't respected as much as they are today. Back when -- we have these fancy terms now -- personal protective equipment, PPE. People might have some hard hats or safety glasses or maybe some gloves they were using. People didn't have these -- we didn't even have seatbelts back then.

Some of you may recall, I mean, changing the oil in the car, you dug a hole and put the old oil in there. Nobody thought it was going to do anything. It was a different world back then. It's not today.

That's why, everybody agrees, even though the year today is 2020, you can't use 20/20 hindsight. It's going to be hard for you to go back and think about, you know, where was I back when Lawrence Welk was singing? I mean, what was the world like then? What did people think back then?

Because you have to determine not what DuPont should have known, should have done. What did they believe, what did they know. They used the term many times, conscious, conscious disregard. What did we know? What did the client know? What did they believe? That's what you need to decide.

So let me put -- I'm going to throw some tags up here

because we're going to be talking about a lot of things.

So daily use with no health effects from '52 -- I want to stop this right now at '78, because we're going to move to '78.

So basically we've got 25 years, more than 25 years of daily use, no issues. And one thing to keep in mind about that -- this is back in the day of the company doctor. There was a medical doctor. Dr. Power had an office on site, and he gave the employees annual physicals. He also monitored -- in part, because this plant is using hundreds of chemicals, they kept track of that in people. They did monitoring, and they weren't required to, had no laws or regulations, but they did that.

When I say they weren't seeing any problems in the employees, it's not because they weren't looking. They had a doctor on site looking. Didn't see any problems. More than 25 years.

So then what happens? 1978, DuPont gets a contact from 3M, and 3M says, hey, DuPont, you know that C-8 we're selling you guys? We're seeing some of that in our employees' blood. Not seeing any health effects, but we wanted to let you know.

What does DuPont do? Does it sweep it under the carpet? Does it ignore it? Does it disregard it? No. They scratch their head and say, huh, we haven't seen any problems either, but thanks for telling us. We're going to follow up on this.

So let's look at some documents on that because, again, no mystery, and not what I'm telling you, it's what you are going to see in the actual exhibits.

So let me show you D.726. I had to rewrite it because I screwed it up, but D.726 is the exhibit. June of '78. I got to back this out again. Let's see.

So this is back in the time, back however many years ago that is. Information provided by 3M. Elevated organic fluorine levels in the blood of the 3M workers. DuPont doesn't manufacture that. We did purchase one of them, the surfactant C-8.

The same thing we saw earlier. Our tox tests indicate a low order of toxicity. No known ill effects attributed to these chemicals, C-8, has been detected among the employees in more than 20 years of experience.

So do they say, okay, all done, put it in the file cabinet, that's it? No, they go on. They take action. They take action.

DuPont's handling procedures have been designed to minimize exposure to the employees. As a precautionary measure, however, we're reviewing our procedures, the medical records, and the tox information.

You are going to see this, ladies and gentlemen, over these many, many decades, that every time a new piece of information is available, DuPont does not ignore it. It takes

action. It evaluates it. It looks into it. And it checks back with this Haskell Laboratory, with all these experts in all these different fields who that's their job. That's what they do. That's what they have been trained to do, in how to evaluate chemicals and substances and how can they be safely used.

All right. I don't want to spend too much time on this.

So a year later, did they follow up? They said they were going to go do something. Did they do it? D79, a year later, 79. Oops. The reviews -- and I apologize, that's just how it is with that line through it. We're just using the real documents.

Reviews of the procedures, medical records, and tox information, the three things they talked about, are now complete. They didn't spend ten minutes, a week. They looked at it for a year. It's now complete. No health problems related to C-8 were found related to among our employees.

All right. So they do follow up. They do look into it. They do, as you might expect, get additional information from 3M, the people that are selling this stuff to them.

Let's go to 1455 because there's follow-up meetings. D1455. Another '79. This is personal and confidential. We're going to talk about some of these confidentiality designations because you are going to see these documents out of the old files, out of the old file cabinets, not written for any

lawsuit, not written for you people to see. Written -- this is what they are saying behind closed doors.

So one of your missions is to determine what did DuPont believe and when did it believe, and did it -- was there scientific evidence supporting what it believed, and you are going to see the real information.

So, again, it goes through, in May we were informed of elevated organic fluorine. 1 to 71 parts per million, so 1,000 to 71,000 parts per billion of blood.

So let me -- I'm going to start a little -- one of the things you are going to learn in this case, actually sometimes it helps people in a four-week trial, with a group of jurors, it's kind of like we're trapped in an elevator together with a bunch of new people, so we'll get to know each other. One of the things you'll find out about me is I have terrible handwriting, but I'm going to start a little chart here on blood.

In terms of what information did DuPont have in terms of what was safe, did it have a reason for what it believed?

3M is saying, hey, people are being involved and exposed to -- I don't need you to memorize these numbers. It's really about the relationship. 71,000 parts per billion, 3M. We're not seeing any adverse health effects. And what are they doing? They have got the bigger plant. They have people more highly exposed. Their people are -- have been working with it

longer. We're having the University of Minnesota do an epi study, a human study, on our biggest, oldest plant, to look into this even more.

So there is sharing of information between 3M and DuPont. Now, they also give some information on -- what's background, what's a background of the general U.S. population. So let me add that column.

So general population, so DuPont's being told, being informed, getting information, no effect over here, but in terms of what's the baseline? You know, kind of like our January or June, what's the average temperature in June? Okay.

Well, it's this. Is it a hot or cold day on that? Well, what is it in January? What is the general population background?

You can see they are told general U.S. population, up to 130 parts per billion.

And then DuPont goes on and says, well, okay, we've analyzed. You've told us what yours are. We've gone and looked at our people. We've analyzed the blood of some people at Washington Works. And in the dispersion area, they are up 9,000 to 21,000 parts per billion. Translating that to parts per billion. No adverse health effects in our people too. So DuPont is seeing 21,000 parts per billion, no health effects.

One of the things -- you know, DuPont gets prepped for a meeting with 3M back in '78, and they come across this Guy and

Taves article, and you may be wondering, well, the fact that these organo-fluorides can stick around in the blood, was that publicly known? Did people know that?

This Guy and Taves article, which is D.337, it was a big paper that was presented at the American Chemical Society, and it was published then, and it talks about going to the blood bank. And back in the mid 70s -- I'm going to throw that up as a placeholder. Back in the mid 70s, Guy and Taves comes out and says, yes, this is something that happens, this persistence, this bio-persistence that was talked about. This was known. That was in the public literature.

That had been presented at the American Chemical Society and then published in the openly available literature about that. So that's something that was there really at the start of this.

And more meetings between -- the meeting happens. Confidential, internal document, 1979, D338. DuPont met in Chicago with 3M, Ubel, he's the medical director of 3M, M.D., said no adverse liver effects or other health effects have been found among employees in their operations.

Now, the liver effects you are going to hear about, because in these various animal tests that were done, the one constant, the one thing that really fell through in all these tests was that the very first organ, the target organ so to speak was the liver, that they would see an effect.

Even with these massive doses, the first effect they would see would be a reversible liver effect increase. So they were sensitized to that. They would check for liver effects, and so he's reporting on that.

And one thing you are going to see, just like we translate the parts per billion -- FC-143 is C-8. You are going to see some reference to PFOA. Again, I'm going to use the shorthand. If you see FC-143, that's C-8. PFOA. You will see it.

I'll go a little faster in a minute here, but, you know, it makes the same thing about background levels. Ubel says -- he gives them an update. Ubel says that this Minnesota professor is doing the epi study of the 4,000, 5,000 employees, nothing noteworthy has shown up. He's not done yet, but here's an interim report, but we're not seeing anything and the professor is not seeing anything.

And then their manager of toxicology, so he's their head of their type of Haskell who looks at things, talks about these studies of the rats and the monkeys, liver, the main target organ. We kind of talked about that already.

Okay. All right. So these blood levels is a topic that we're going to come back to several times, but the importance of blood levels, I talked about the fact that you can have exposure to C-8 if you are one of these employees from breathing the air, if it's in the powdered form, if it got in

your skin, or if they are drinking the water, from drinking the water, but all those different routes of exposure, it's all summarized in your blood level.

So the one thing to keep in mind as you are comparing data and trying to compare apples to apples, blood levels help you do that, because that's the internal dose, that's how much you have in your body, so blood levels is a fair way to compare things.

Now, in the late 70s, you are going to hear that DuPont did something else. DuPont set something with this Haskell Laboratory that was called an AEL, acceptable exposure limit.

So DuPont, as I said, did various tests, and they had this Haskell Lab trying to make sure they were being protective. And with regard to these employees, they set things called AELs. So here's a document from back in the day setting acceptable -- I'm sorry -- D603, setting acceptable exposure limits at Haskell, and they had a committee to do this.

And, in fact, it was established around this time, coincidentally. I think it's having trouble because this is folded.

THE COURT: If you can't see something on the screen, let me know it. We try to give you at least one free eye exam while you are here on jury duty.

MR. MACE: So the AEL committee established in '78 by

Haskell to provide an efficient uniform means of setting safe workplace exposure limits for agents of interest for purposes of prevention of adverse health effects.

So this testing that was done on C-8 was not unique to C-8 because they thought C-8 was some bad actor. They were trying to do it for all of it. So C-8 went through it. The chairman, the staff on this, the voting members, approximately ten voting members, in addition to the chairman, and the head of this Haskell -- you can imagine all the degrees that guy had. But they have got experts in epidemiology, the study of humans, industrial hygiene, how much people are being exposed to, occupational medicine, so these M.D.s, medical doctors, pathology, which is if anything happens to the animals, looking at the tissues, what did it exactly do, and toxicology, the whole study of substances, and they have experts in each one of those on this committee.

And what about this -- so they are doing this, okay, what about -- so if DuPont is doing this internally, what if the government comes out with a different standard? What was their policy on that?

When a government standard is different from DuPont's for the same material, the more stringent one will be followed. So if DuPont says 5 and the government says 3, DuPont says okay, 3. We'll go to 3 immediately. If DuPont says 5 and the government says 100 or 200, DuPont says, no, we're staying at

ours. We're staying at 5. We'll just be more protective. So that was the policy.

And then the safety factors. We talked a little bit about this. So the general practice is to extrapolate, to base it off of the NOEL, the no effect level, no observed effect level or a low effect level in the animal studies for appropriate levels in the workplace.

And they talk about some of the standard safety factors, and even, you know, counsel talked about the two-year rat studies. If you've got one of those maybe, we'll put the safety in factor in the 5 to 20 range, but you are going to see that DuPont did more here because of this persistence.

Nobody never understood this persistence. They weren't seeing any harm, but there was a curiosity about this persistence. They didn't stick with 5 to 20. They put 800, 1,000, 2,000 levels of safety factors.

All right. So they had this committee that set this AEL. Let me put that one up there.

In '79, DuPont sets an AEL, an acceptable exposure limit, and we'll come back with what the level was, and, again, no legal requirement that DuPont have a committee. No legal requirement that DuPont go out and set a safe exposure level. They did it.

And to understand these safety factors, I mean, the best analogy I can think of for you is kind of the backup buzzer,

the backup camera in your car. So if you hit the wall, you are going to have damage. You are going to hurt your bumper.

So they do the animal tests. They figure out, well, when is the bumper going to get hit. They don't set the level there. They have that green zone, the yellow zone. They have all that zone to keep you far away. So you are paying attention. So you take notice. You regulate to or you watch yourself to, we're going to set a level, and we're not going to get over that.

We think that has all kind of safety levels that's not going to cause any harm whatsoever, so you'll be able to evaluate that.

It's basically that DuPont -- you are going to see that DuPont's belief was it did not expect any harm to anybody if you maintained those safety levels.

And you are going to see that they regularly reviewed this. Did they say, "Okay, hey, we pat ourselves on the back, boys, girls? We set this. We got all the scientists together. We think we've got it uber safe. I mean, this is good. Let's just forget about it."

No. You are going to see that time and time and time again, when a new piece of information came in, they evaluated it.

In fact, we're not going to go through them obviously today because some of these will be talked about in the trial.

Here's D1874. And in the 70s, in the 80s, in the 90s, in the 2000s, as each piece of new information became available about this substance, DuPont kept going back to the AEL committee, these experts, separate from any business unit, to say, what does this mean? What does this do to us? Does this move the needle at all? Are we still being protective? Do we still have all that distance between the wall that we're not going to cause any harm to protect us? You are going to hear about that.

So let's go to 1980. Because in 1980, DuPont gets more information from 3M. What you are going to see is that study that had been talked about, about looking at the 3M workers, the 4,000, 5,000 people, that -- the longest exposed, heaviest exposed. That gets published. This comes out in 19 -- oh, boy. 1980. August 1980, published in the American Industrial Hygiene, all public information. D2840. Dr. Ubel and others, 3M medical department.

What's their bottom line? No ill health effects attributable to exposure to fluorochemicals were found among these workers. Not just what they were saying to DuPont. It's what they were saying publicly and publishing reports about.

Further meetings because DuPont doesn't let things alone. DuPont keeps looking. DuPont is a curious company.

DuPont, D704, personal and confidential, 1980. Blood tests on employees with the C-8 showed up to 70 parts per

million, 70,000 parts per billion, we saw that already, and there are people, 22,000 parts per billion in the Washington Works people compared to a general background of less than one part per million. So 1,000.

So what's DuPont's understanding of general background? 1,000. Less than 1,000. That's what they think as background.

And did they stop with Haskell? No. These results indicate there's no significant exposure to C-8, a view supported by Haskell, by a different laboratory, Jackson, and by the people at the Washington Works plant.

You are going to hear that at this plant they had some experts who consider blood levels of organic fluoride below 1,000 parts per billion are not significant. That's just background.

But do they stop there? No. To ensure the continuing protection of the people, we're going to keep up with these operating procedures. We're going to have no skin contact since the animals showed more of an issue with skin contact. So don't stop. They go ahead and do more. Right. Then we've got basically an understanding.

So, you know, this has been going on for a couple of years now. This is a 1980 document. And it's D26, communications meeting. And it kind of gives a review of the history, what things we've just talked about. The purpose of the meeting is to bring everybody up to speed today on our

findings regarding C-8. It's been used for Teflon manufacturing for 25 years. Other chemicals have been tested but none match C-8's properties.

So you are going to hear a lot more than what I can explain to you today about the efforts that DuPont made, the strenuous efforts to find a replacement chemical, something that would work as well as C-8 did, and the difficulties they had with that.

But here back in the 70s, they were looking. Nothing could match these properties.

In '65, tests were done. It showed slightly toxic when swallowed. Not surprising. There's a dose level of almost every chemical that becomes poisonous, even water. C-8 is not as toxic as acetone. It has a lower toxicity, like table salt. So in terms of what they believe, what they were thinking.

Since 3M informed us of the blood -- being detected in the blood of their employees, we've been reviewing and expanding our C-8 program. Nobody is being hurt, neither here nor there, that we can tell, but we're expanding our programs to make sure we're treating this well.

Some of the old timers remember when C-8 was treated with less respect and wonder what's all the noise now, because people have been using this since back in the 50s.

DuPont's reacting while C-8 levels in the blood are low and before any damage is done in the body. Medical data show

no one has been injured by C-8.

After 25 years of handling it, we see no damage among the workers. But because of this accumulation, this bio-concentrate, this accumulation factor, we've decided to undertake programs to minimize the accumulation. We don't see anybody being hurt, but we want to be prudent. We're going to minimize the amount that's being accumulated.

They went to the AEL committee with Haskell. They set this AEL. It's very low. It's got a factor of 800, not 10, not 50, some of those other numbers we've looked at, 800X below where any harm was seen, and that's where the reversible liver effects were seen. It is a safe concentration.

All right. So then something very much surprising happens. In 1981, next big news from 3M. You are going to hear it was a false positive report of a potential eye lens defect in rat pups. So one of these megadoses rat studies, 3M is saying, hey, we might be seeing some problems in the eye lens of the rat pups.

Did DuPont ignore it? Did DuPont sweep it under the carpet? No.

You are going to see that very promptly after 3M notifies DuPont, they're writing -- it's D14, 14, they are writing to both the state and federal regulatory agencies, the people charged with protecting the public, so USEPA and the state DEP, Division of Water Resources, and this is '81.

This is tox information we received from our supplier. It's present in our outfall. We're putting this out into the Ohio River in this amount.

3M has advised us that it is found to cause defects in unborn when fed by stomach tubes to female rats in a preliminary study. Much more testing has to be conducted.

Haskell is going to do some follow-up testing. We DuPont is doing to do some follow-up testing, although we are just using it. 3M is going to be doing more testing. They're the ones selling it. But wanted to let you know. We don't know the significance, if any. Here it is.

This is the information we have. This is how much is leaving the plant. Same letter is written to the air people, the West Virginia Air Pollution Control. Hey, we just got some information. This is how much we're putting out into the air from the plant. We're checking it out. 3M is checking it out. We wanted to let you know.

And this got a ton of national publicity because one of the things -- let me put this false positive label. From '81, we get this false positive rat report, and DuPont -- you are going to see -- immediately pulled the women of reproductive years off the Teflon lines. They protected their pay. They guaranteed their jobs and everything else. They took them away from the Teflon lines while it was being checked out. First protect people, then check it out.

So then it was checked out. DuPont did two more studies. 3M did two more studies. They got experts involved.

But in terms of whether this was widely known, I mean, it was in the *Wall Street Journal*. It was in *The New York Times*. It was on CBS News. It was all over the place.

And then D12, confidential, internal, '81, C-8 did not cause developmental lens abnormalities. The lens changes previously reported are both a normal stage of lens development from that stage of the rat and their artifacts of fixation. When they used the scalpel, that tore the lens instead of cutting it.

Is this just 3M and DuPont kicking it around? No. Dr. Hartman, Dr. Alfred Coulombre from the National Institutes of Health contributed to it. Then they went and met with the EPA, said everything is fine. Everybody was in agreement. It was a false positive.

All right. So let's move on a little bit, and in terms of -- we're going to see throughout time, and as I said we can't go through all of them today, but in terms of the contact with the agencies, the reports that were given, so here's '82. This is D1065. Here's 3M sending -- talking about a meeting they recently had with EPA and sending -- they left some studies with them. They are sending some more studies. There is a whole slew of information they are providing. Similarly, in that time frame, DuPont is sending studies in.

It talks about their meeting with EPA, U.S. Environmental Protection. Here's about nine different studies they send in to the EPA. And if we have time, we'll come back to some more notices.

But I want to switch topics for a minute because counsel talked to you about water testing, some of the water testing that was done, and it's important for you to have all the context on this, so we're going to go up to the mid 80s now, the mid 80s.

And you are going to see that DuPont looked at what levels were reaching the community. And so D696, this is in 1984, personal and confidential, internal memo about water testing.

And what you are going to see is that up and down the river, they went all the way, 79 miles down river to Gallipolis, non-detect, closer non-detect, closer non-detect. They went upstream to Parkersburg, 7.5 miles upstream, non-detect, non-detect, non-detect.

You are going to see that the only place that they even saw any little trace of C-8 was in -- right next to the plant. You see here's the DuPont plant on the West Virginia side. There's the Lubeck Water District, and on the north side there's Little Hocking, and there's actually a controversy because -- we don't need to go into all the details on it.

The first time DuPont went and looked at the Little

Hocking, it was right at the detection limit for C-8 and then they went back to look and they went back to look and they went back to look and they went back to look. It was non-detectable. So they ended up thinking it wasn't even minimal. But they did think it was in Lubeck. You are going to see what they did with it.

I want to introduce somebody to you at this point, somebody very important that you are going to hear from at the trial. Mr. Playtis, Tony Playtis, Dr. Playtis.

You are going to hear a bit about Tony at the trial because he had a Ph.D. in organic chemistry, a very educated man. He worked in industrial hygiene at first, monitoring levels of exposures to all kinds of chemicals at the plant, and then he worked his way up to be the occupational health coordinator for the plant.

So he was basically in charge. He was the one responsible for evaluating the potential hazards from chemicals and substances at the plant and making sure that DuPont was doing the right thing to keep people safe.

And he had a team of people helping him, of course. He didn't have to do it all himself. He had a staff underneath him. He had regular contact with the Haskell people, the scientists there. His office was right next door, I think it was, to Dr. Power, so he was checking in with him regularly, and he was the one that was following up. He was one of the

main people that DuPont had following up on C-8 as new information was coming in and evaluate it.

You get to know a little bit about him as a person too. He volunteers his time. He's an active church man. He's got some hobbies. He likes gardening a lot. I believe he's been the president of the Wood County Master Gardener Association, and he's really into irises. He likes growing irises. So he's got some quirks like we all do, but he's a good guy, and he's been married to his wife more than 40 years. They have two beautiful children, Sarah and John. But for the past 42 years, since 1978, they have lived near the plant, less than three miles away.

Let me show you where the plant is. So the plant is up here. The plant is up here, and Dr. Playtis, Tony, lives two and a half miles away from the plant.

And as you can imagine, they have many friends in the community, but he was involved in evaluating the information about C-8, including the health effects, what health effects, if any, the information from 3M, the information from Haskell.

He was involved in the monitoring of the blood levels. Because right from that first contact with 3M, DuPont started monitoring the blood levels in its people, to keep an eye on it, and to see if these changes they were making were reducing the blood levels, which they were.

So they reduced the air exposure. They switched to the

liquid, and they monitored the blood levels and saw them coming down.

So he did all of that. You know, like counsel said, he drank the water. He bathed with it. They cooked with the water.

You are going to hear that the very water samples, some of the water samples we are talking about, came from his house, so he was directly involved in this stuff.

And then in terms of what did DuPont believe, there's a document I want to really call your attention to which is P1.5295 because this is 1994, and DuPont, confidential -- it doesn't just say confidential. Look at those two other words on there. Special control.

One of the things you are going to hear is there's different levels of confidentiality in companies, including in DuPont, and special control is the very highest level of confidentiality inside DuPont. That's like the secret formula in Coke. That's the secret sauce recipe. They kept track of these back in the day. These are hard copies. There were a certain number of copies that went out. They had to be signed out, signed back in. They kept track of it. This is super-secret behind closed doors.

What do they say about these water tests?

Small quantities of C-8 are discharged to the Ohio River, emitted to the atmosphere, as reported to the state air

pollution and water resource agencies. As reported. Part of our continuing effort to monitor the environmental impact, we took some spot samples.

Could they have done more? Sure. Could they have taken them every day? Could they have done more? Yes, they could have. And they did take some, and this is what they believed.

Continuing effort to monitor environmental impact, with spot samples near the plant, using an extremely selective, sensitive analytical method, eight of the sources contained no detectable levels. Slightly detectable levels, about one part per billion, were found in two areas downstream from the plant. The low levels found pose no risk. There are no known health effects at concentrations found at Washington Works or in the Lubeck or Little Hocking areas.

So, you know, the plant drinking water had it, that these managers were drinking and others. They found traces in these two water districts right near the plant. And it made sense why, you are going to hear, because they had these anaerobic digestion ponds. We'll mention them in a bit, but a place where things would settle out and stuff, but they were lined with bentonite and clay. But they were right at the plant.

And the thinking was, well, this might be getting out right below those ponds and getting into the groundwater near the plant. You are going to see what they did. They bought

the Lubeck wells. They started pumping that water into the plant. They closed those ponds, closed those up, and thought they had addressed the issues with it.

We have more time to talk about that later.

So this wasn't 20, 30, 40, 50 miles away. This was right by the plant.

One of the things that I believe you are going to see, the evidence will show, DuPont never had any knowledge that there was any C-8 at all 20, 30, 40, 50 miles away from the plant.

And you are going to see where the plaintiffs in this case lived and where they are claiming exposure. This will be a little hard to see, and these glossy things don't come out all that great. That's a little better.

All right. Let me get my little pointer. So the Washington Works is plant up here, and you know, Playtis -- Dr. Playtis lives, you saw, like right by the plant.

MR. CONLIN: Your Honor, may we approach again?

(The following proceeding was held at sidebar.)

THE COURT: Let's get your objection.

MR. CONLIN: Well, Your Honor, this is what we were totally concerned about earlier. We said he's going to come back here and talk about it's 40, 50 miles away.

THE COURT: First of all, it's still in the class, and that -- you know, that's -- if I take literally what you are

saying, they are really not in the class they are so far away. I mean, that's the implication.

MR. MACE: It's going to the whole conscious disregard. Let me grab a sheet, Your Honor.

THE COURT: All right.

(Pause in proceedings.)

MR. MACE: Your Honor, actual malice is a finding that each plaintiff has to show, so it's clear and convincing evidence, a great probability of substantial harm to the plaintiff.

THE COURT: So people like the plaintiff.

MR. CONLIN: People like the plaintiff.

MR. MACE: People like the plaintiff.

MR. CONLIN: People like the plaintiff in this situation are the class.

THE COURT: I can give an instruction. It goes partly to that. I agree there's some probative value, but I don't want the jurors thinking they are so far away they couldn't have been hurt because that's not the whole theory of the Leach Agreement.

MR. MACE: No. It's evaluating the conduct.

THE COURT: Okay. I agree.

MR. MACE: I'll make that clear. It's only for evaluating the conduct.

THE COURT: That's number one. Now, we're getting

into Playtis, so he's at the plant. We got into this big issue about him drinking the water and could that be used. We've talked about this at every trial.

MR. MACE: Right. And we said that we could, and I only added the bathing since he had emphasized that they are bathing with it and cooking with it.

MR. CONLIN: Your Honor, we let him talk about it for a second, about two points, and so I started to get up. And then I was like okay. He's moving on. So then he comes back to that they are 40 miles away, and he's going to imply that his drinking it somewhat makes this safe, and the Court has already ruled on that.

THE COURT: It goes both ways. I mean, I see some relevance, but I also think it's going to mislead the jury about participation in the class.

MR. MACE: Yeah. I'll make it clear it's only for evaluating DuPont's corporate conduct in terms of whether it was substantial.

THE COURT: Do that. Two things, then we're going to take a break. Wait. Then I'm not going to force you to finish, but I have to leave here today at 5:00.

MR. MACE: Yeah, we should be done. Yes. I think our thing was only about two and a half.

MR. TAPLEY: Your Honor, just for the record, I mean, if we have to revisit this, I think we're going to insist that

the Court re-read the instructions to the jury because I'm worried they are already confused about what they have heard.

THE COURT: Give him a chance to clear it up first. You can do that after the break. You want to do that right now? They asked to go to the bathroom.

MR. MACE: Okay. Let them go, Your Honor.

(The following proceedings were had in open court.)

THE COURT: Don't get too comfortable. One of you indicated you would like a break. We're going to take a 15-minute recess at this time.

DEPUTY CLERK: All rise. This court stands in recess.

(Recess taken from 2:53 p.m)

(Jury in at 3:00 p.m.)

THE COURT: And, Mr. Mace, you may continue.

MR. MACE: Thank you, Your Honor.

Ladies and gentlemen, I want to recap that there are two different issues that you're going to be deciding in this case.

One is the specific causation issues, what specifically caused the cancers. The other is the corporate conduct. So I'm up here talking to you about corporate conduct. A couple of my partners are going to be talking to you about some specific facts about Ms. Swartz and Mr. Abbott. And that's the context in which I'm trying to give you some of this information.

Just to remind you what the actual malice standard is,

as the judge said, you're going to get detailed instructions from him at the end, but it's clear and convincing evidence, not just a preponderance, that DuPont consciously disregarded a great probability of substantial harm to people like the plaintiff.

So I'm just trying to give you some context facts that you may want to think about as you're making that determination.

In terms of part of that analysis is what was DuPont conscious of? What did it know? What did it believe?

So the point I was trying to make is they didn't know there was any C-8 out as far as where the plaintiffs lived and where they claim they were being exposed.

So, you know, my partners will talk about it more but, I mean, Ms. Swartz lives in Gallipolis. She claims she visited a sister and a mother and worked in the water districts.

Similarly, for Mr. Abbott, you know, his locations where he lived and where he was claiming exposure weren't right by the plant. That was the only point I was trying to make with that. And in terms of, you know, DuPont's knowledge, what it believed, I mean, in terms of where you would expect something to have an effect.

So if you're doing something at a plant, let's assume the plant was at the site of the courthouse here. I mean, once you get out 20, 30 miles, do you really -- would you believe,

would you know that it's going to have some effect that far out?

THE COURT: Let me see you at sidebar, counsel. You may stand by your seats, ladies and gentlemen.

(The following proceeding was held at sidebar.)

THE COURT: This is what I'm afraid of when we say 20, 30 miles, 40 miles out, they're going to think how did these people get involved in the case, but their water districts are in the case. They're in the Leach settlement.

MR. MACE: We're going to talk about that.

THE COURT: We need to do it now. Again, I see this as admissible for one purpose, inadmissible for another.

One purpose is this: It's inadmissible to undercut the class membership issue so we need to straighten that out.

MR. MACE: Okay.

THE COURT: If he doesn't, I'll have to give an instruction.

MR. MACE: Right.

MR. CONLIN: Your Honor, just to be clear here, to use an adage that we've got back home, right now DuPont is just like a dog with a bone. He comes up and says we're not going to talk about this, it doesn't have to do with specific causation, but let me tell you about how far away they are.

THE COURT: So Mr. Mace knows this word. I don't think either of you do. You might because you were at some of

the pretrials. This is praeteritio. You're new. This was a word we used all through the other trials. It's a figure of speech where you say you're not going to mention something as you mention it. Okay. He knew that. It's P-R-A-E-T so if you look it up, don't misspell it.

All right. Thank you.

MR. MACE: All right. Thank you.

(The following proceedings were had in open court.)

THE COURT: You may continue.

MR. MACE: So, again, I'm talking to you in a chronology fashion. We're going to find out later, I'm going to mention the fact that there's a settlement agreement that occurs in 2004, and that the science panel findings come out in 2012 and that, as a result of those, there's the whole issue of class membership and things.

And, just to be clear, DuPont is not disputing that Mrs. Swartz and Mr. Abbott were members of the class, and we're going to talk about that more later. But that really is not part of -- that's more of the specific causation story and really more of the general causation story, which isn't even an issue for you to decide.

But keeping things in context, again, I'm giving you these facts in the context of actual malice whether there's clear and convincing evidence that DuPont consciously disregarded a great probability of substantial harm to people

like the plaintiffs. I'm only talking about actual malice here.

THE COURT: This is a matter that will come up.

Sometimes, and Mr. Mace is alluding to a time, there's evidence that's admissible for one purpose, not admissible for another. And usually when that happens, I need to explain that to you. So Mr. Mace is correct as far as judging this conduct and malice, this distance may be something you consider.

In terms of that .05 parts per billion and the general causation agreement, you don't consider it for that purpose so you have to keep that in mind.

There are going to be some situations where you can consider it for one purpose but not another, and this is one of them. With that, you may continue.

MR. MACE: Thank you, Your Honor.

What you're going to see, ladies and gentlemen, so we were in the mid '80s, and I promise we'll go a little faster.

So we're in the mid '80s, they go out and hit some spots, and the only place they think they even see a trace of C-8 is right by the plant. And what do they do? You're going to see here's P1.2904, site visit to the plant in '85, who is there? EPA headquarters, EPA Wheeling, a couple people from Virginia and West Virginia Department of Natural Resources, and they talk about these ponds I mentioned, the anaerobic digestion, and the floors and walls are lined with red clay and

bentonite. The effluent liquid that comes off of it is trucked off-site. But the main thing here today is leakage of surfactant, the C-8, was detected in the aquifer in the river. This led to relining of the impoundments with bentonite. The Lubeck public supply wells were reported to have detectable levels of C-8 surfactant.

So they're giving this information -- not only do they have it, they give it to federal EPA, regional EPA and West Virginia. And you're going to see they give it to Lubeck; Lubeck, the water district.

So in 1989 they're writing to Lubeck Public Water District. This is D8295. We performed analyses for C-8 in Lubeck water taps from '84 to '88. C-8 is a surfactant we purchased from 3M. We've shown concentrations of 1 to 2.2 parts per billion. At these very low concentrations it has no known toxic effects in humans. We have noted accumulations of C-8 in the blood of workers who had the potential for exposure by inhalation and skin contact -- these other routes -- but there had been no adverse effects on employee health. Same thing they were saying internally. The presence of the surfactant in the aquifer was reported to U.S. EPA and West Virginia back in '85. If you have any questions, call.

So they have communications about this water testing, what their results were both with the U.S. EPA, with the state of West Virginia and with the water district.

All right. And you're going to see that in terms of the agencies being informed, they were regularly informed about the amounts being emitted from the plant, and there were discussions because, as DuPont worked on scrubber technology and various things to remove C-8 from various emissions, they had discussions because there were permits with the state.

So here's 1985, D4386, U.S. EPA, West Virginia Division of Water Resources, a couple people there, and it's a response to a letter from the state. You asked for additional information on our request to add more fluorides to our river discharge.

So this is in that time period where the plant is being expanded, and they communicate with the state that we're going to have more discharges and about the scrubbers.

So there's a specific paragraph in here about the scrubbing process. C-8 -- so they're talking to the state about C-8. It's proposed to be discharged in the wastewater streamed from the scrubber at a rate of 2 parts per million. 2,000 parts per billion we're going to discharge it. It is our best professional judgment, BPJ, that the quantity of C-8 to be discharged is not sufficient to require treatment and would be of no environmental significance.

So they tell them how much we're putting out, we don't think it needs treatment.

We're going to talk about dilution in a bit.

But what does the state say? State writes back, D4387, the dots on here, if we've confused you with that, it's dot 1 for the first, page 2 for the second page, but the basic number is before the last dot. So the exhibit is D4387. Department of Natural Resources West Virginia '86. This letter is a modification to your West Virginia NPDES, National Pollutant Discharge Elimination System, that's the water permit. Continuous discharge from the copolymer scrubber process is to be directed to outlet number 5, the outlet going directly to the Ohio River.

The division, West Virginia agrees with DuPont. It's not cost effective to treat the remaining fluoride discharge, and that this remaining discharge is not a substantial alteration to the permit, would not cause violations to water quality standard for fluorides in the Ohio River.

And this also gets copied to U.S. EPA. So state and federal again.

The air, similar story, couple of examples. Here's D1942, 1988 to the West Virginia pollution control. It's about a permit to increase the capacity of the fine powder dispersion plan at Washington Works.

And then what happens?

D1927, West Virginia air pollution control permit. The permit's revised, and it's for the expansion of the Teflon fine powder dispersion plan. We've identified the sources and the

emission points. Ammonium perfluorooctanoate. That's C-8. C-8, how many pounds per hour, how many tons per year coming out of four different places. So this is part of the approved permit. And that understanding is reflected in other documents D2512.

This is 1991. Discharge of C-8 into the Ohio River from the current process and some landfills is regulated by NPDES permits. In addition, the site confirmed that permitted discharge of C-8 with EPA -- U.S. EPA back in '81.

And you may be interested in -- you may have been wondering this, but you may be interested in the evidence is going to show, ladies and gentlemen, that throughout these many decades there was no, no state or federal law restricting the manufacture, purchase, use or disposal of C-8. I'm going to repeat that. Throughout the relevant years that you're evaluating for DuPont's conduct, there was never any state or federal law against disposing of C-8 in landfills, in wastewater discharges to the river or in the air going up the smokestacks. You're going to see that C-8 could be lawfully washed down the drain like the soapy water coming out of our dishwasher or washing machine at home. All of DuPont's emissions did not break any law or regulation.

Let's look at another document while we're in this time frame. So here's P11542, 1985. It's one of these recap documents.

DuPont has been using C-8 as a dispersing agent in the manufacture of Teflon for about 30 years. Internal document. During that time there have been no known human health problems resulting from employee exposure at Washington Works nor have there been employee health problems at 3M, our supplier, where they have higher levels for a longer period of time.

The fluoropolymers divisions are in compliance with the environmental regulations. Our dryers have permits to emit so many tons per year, and there appears to be no adverse health effect.

So then they talk about what they're working on at this time is cost effective recovery of C-8 for reuse so you're going to hear about the many efforts that were made to -- while they're looking into any potential health effects and not finding any, trying to reduce emissions which they did do some of that, trying to replace it which they were able to in some of the processes but not all of the processes, and then moving to the green initiative. Let's try to recapture and recycle it so we're not buying more from 3M. We're trying to get it out of the emissions, recycle it and reuse it. So you're going to hear about those efforts.

In terms of steps to reduce exposures, you may have gotten the impression there weren't any. Well, here's a document from 1991. It's D894, and it's noting even back in that early time frame steps taken to reduce exposures for the

employees. We converted to the liquid, we talked about that a little bit. That way they don't have the skin exposure or inhalation. And in the community they're installing air scrubbers on the fine powder dryers. They're cleaning it out of the air. That had already been done. They closed these supernate ponds that we talked about. They purchased those Lubeck wells and started pumping that water into the plant, and they're going to continue to do that.

And they're doing other things.

So did they ignore it? No. They took steps, they took action.

And then there's additional meetings with the -- let me show you something else here. Let's do these other two.

So here's one. This is D750, February of '92. Internal memo. Meeting was held on February 4, '92 with the representatives of West Virginia Division of Natural Resources the Water Resources Section to review the permit application, the liners. We've got the director or the chief of DNR there along with some of his staff. Meeting was arranged at DuPont's request.

And, don't worry, I know you saw this in some of the plaintiffs' documents, too. This is nothing that the parties did unilaterally. The judge had made some rulings that certain things really weren't relevant for this case and that we needed to redact them. So when you saw the black boxes on their

documents or our documents, nothing wrong with that. That's part of the rulings that are in this case so don't be concerned about that.

The MSDS sheets for Teflon products and C-8 were reviewed in detail. All important issues, including biopersistence and the accumulation in the blood were mentioned. All the names for C-8, FC-143, were brought out, the location. Hydrogeology monitoring results of the nearest neighbors were reviewed. The C-8 contamination was not an issue.

So this is a meeting in '92 with the West Virginia Department of Natural Resources and a recording of what happened there.

Monitoring results for the leachate pond were examined in detail. The DNR reps agreed that treatment was not necessary. One part per million. So 1,000 parts per billion was not an issue.

All right. Again, there's another meeting in March. This is D1763. And these are meetings held before the same information is being sent into U.S. EPA, but these are local meetings.

So in 1992 it's about a March '92 meeting with the Division of Natural Resources and the Department of Health. The director of the Division of Natural Resources, the Director of Health. We've got the director there, the chiefs of several

divisions, Gary Viola there.

Again, the meeting was arranged at DuPont's request to present the VI findings, verification and investigation, prior to being submitted to EPA and to review in detail tox data about three chemicals used by DuPont detected in groundwater, one of which was C-8.

The presence of off-site concentrations of C-8 in the old new Lubeck wells was communicated to the regulatory agencies.

In fact, I mean, they actually went through the various communications with the regulatory agencies. '81, '85, '86, '87, '89 through the years. And then the same presentation's made in a meeting with Lubeck, the water district. Presence of organic constituents, special emphasis on C-8 and Lubeck being communicated.

So you're going to see a lot more of these documents. I wanted to just give you a sample so you didn't walk away today with a false impression.

But in terms of the objectives, because one of the counsel -- very good counsel over here talked about, you know, what should companies do or something about that, P15314 and Mr. Zipfel is there. You heard about him. March of '95. But business objectives letter Washington Works and C-8 emissions reduction. The goals, reducing C-8 emissions by 50 percent and eliminating the remaining C-8 emissions by 2001, or ensuring

any remaining emissions produce no sort of long-term impact on human health or the environment. We will continuously analyze and improve our practices, processes and products. We will develop new products and processes with increasing margins of safety; those levels of safety factors we talked about. And we'll drive towards zero waste, generation of the source, and materials will be reused and recycled -- this green initiative -- to minimize the need for treatment or disposal.

So there were plans in place. Did they go as quickly as DuPont wanted them to? No. You're going to hear from Mr. Zipfel about that. They tried and tried and tried several different things. This soapy type material creates bubbles when you try to process it through some of these things. You couldn't just take an off-the-shelf system and filter it.

So the pure 100 percent C-8 we talked about they're getting from 3M, put a teaspoon in 800 gallons of water then it gets mixed with other stuff, by the time it's done with that process it gets further and further diluted.

Then you're going to hear about the Ohio River, and I think it's something like 13.8 billion of gallons of water -- maybe it was pounds -- 13.8 billion pounds of water going past that plant every hour. So extremely much diluted from what we got from 3M, what DuPont got from 3M when it finally leaves the plant, and then it gets further diluted when it goes into the river.

But trying to get a very tiny amount of something out of a huge quantity of water -- I mean, they talk about incineration. You can't burn that much water. I mean, it's very hard to do. These are very hard engineering processes where you have to understand the context on some of this stuff.

So another one, P17128. It's C-8 program '97, and there they talk about the goal. The goal of the program is to manage the exposure and environmental discharge. Containment of C-8 emissions by capture and recycle or destruction together with the efforts. They didn't try one or the other. They're doing all three, all three of them to replace C-8 where feasible because it wouldn't work.

Concurrent with this effort and parallel with that, we're doing this risk assessment model which evaluates C-8 and any alternative surfactants to maintain -- not to get for the first time -- to maintain reasonable certainty of no harm.

So you have their internal documents, what they believe. They thought they had a reasonable certainty of no harm; the opposite of consciously disregarding a great probability of substantial harm. The very opposite is reflected in their documents. No harm. We have a reasonable certainty of no harm.

And they're noting you can't just switch things up. You don't know if you're creating a bigger problem with the thing you're switching to so you have to test those. You're going to

hear a little bit about that.

Install equipment to recover and/or destroy the surfactants, you're going to hear about that. Emissions will comply. I mean, that's the standard. Emissions will comply with all applicable laws and regulations. They maintain that. We're going to continuously reduce the emissions to the environment and ensure that the C-8 exposures are kept below the ceiling set by their various safety standards that they were setting over at Haskell.

You'll hear more about this.

All right. And, you know, the notices. Let's see, here's '97. I don't want to spend too much time on this. But we talked about some of the earlier notices. Now we're up to 1997, a letter from DuPont to EPA -- U.S. EPA also going to West Virginia and, again, they're sending in more data, more information up to 2000. More letters from DuPont Haskell to U.S. EPA. Summaries of the studies conducted at DuPont. Over 51 pages of different summaries of information being given to EPA. Many of the underlying studies had already been given to them so you're going to get the context on that as we go through the evidence.

So let me switch topics briefly and talk about these two-year rat studies that were mentioned because really the takeaways on the two-year rat studies -- and two years is the life of a rat, but the takeaways are, one, it took massive,

massive amounts of C-8 to cause the tumors that were referred to.

Two, and this is important, the tumors were always preceded by other effects. And if you could protect against those other effects, reversible increased liver weight, you would protect against cancer or a tumor because there's actually a distinction between cancer and tumors. These were tumors, but we don't need to get to that nuance today.

If you could protect against the lower effect which was liver, increased liver weight which is what these safety standards were designed to do, even if the rat findings applied to men, people, you would still protect.

And that's the third point, that part of the analysis has to be are the changes that you see in an animal things that can happen in man.

And they're different species, they're different organisms. They're different than people and they have different organs, they have different ways they process things.

And what's going to be -- you're going to see is that these same three tumors that were talked about, it's called the tumor triad. Rats get those if they have lactose in milk. About half the medicines in the PDR cause these three tumors in rats. It's because they're very sensitive to something called peroxisome proliferation. And there won't be any spelling test, but they have this way that they deal with some things

and there are certain enzymes that they create that man is very insensitive to, man and primates. So you'll have to listen to that.

But, again, there won't be any doubt because of the internal documents what DuPont was thinking. I mean, here's '97 from Haskell. This very -- this group of very trained people, hazard characterization, human health, C-8 exposure.

And you're going to hear what Dr. Biegel's conclusions are. All right. So it is likely, it is likely that these tumors pose little or no carcinogenic hazard to humans.

So internally they're evaluating this, the experts at Haskell are evaluating it. They're looking at these animal studies. It's likely it's got no link to humans, and we've got these programs monitoring the health of the C-8 exposed workers and retrospective cohort studies looking back at the past that don't provide any evidence of an association between C-8 exposure and adverse human health effects.

So you're going to have the documents of what DuPont was thinking, what it believed. And, you know, part of this is going to be, not only what was DuPont thinking, what did DuPont believe, but why did they believe that and what were third parties saying. That's fair for you to think about and fair for you to consider.

So one of the organizations that looked at C-8 was this American Conference of Governmental Industrial Hygienists, this

ACGIH that counsel referred to. Before I get into their conclusions, I want you to get a sense of the caliber of the people that were looking at this.

This was from back at the time. They looked at it at two different times in the '80s and the '90s, but this chemical substances TBL committee, because what this ACGIH is, you're going to hear it's a very respected organization and they go out and come up with values, do testing and evaluations, come up with values for I think it's thousands of different chemicals and substances for what people can be safely exposed to, the threshold limit value.

But you've got MDs on there, people from the Navy, people from -- CIHs, certified industrial hygienists. You've got NIOSH there. You've got OSHA there, Occupational Safety and Health. You've got the National Cancer Institute there, you've got NIOSH. So you've got all kinds of pretty high caliber people there looking at this making an evaluation, and you're going to see that what they ended up concluding was that for this substance, ammonium perfluorooctanoate, C-8, FC-143, they rated it as an A3, an animal carcinogen. In fact, you're going to have as an exhibit in this case D610, and that's the booklet, the ACGIH booklet -- I mean, this is the hand guide that so many people use at so many places of employment across the country because it's got the handy reference table and information about different chemicals and things, and this is

the version as of 2011.

You're going to see that that same A3 rating, animal carcinogen, is what ACGIH was saying all the way from the mid '80s all the way up until 2011, the time period that you're evaluating DuPont's conduct. All throughout there this independent third-party, respected, relied on by people across the country was saying A3.

So what did A3 mean? Let's look at that.

Well, first of all, let me get that up here.

So '94, we've got the ACGIH evaluation, let's see, and they say A3. Well, what the heck does A3 mean?

So A3 is a confirmed animal carcinogen with unknown relevance to humans. The agent's carcinogenic in experimental animals at a relatively high dose, these massive doses by a route of administration at sites, histologic or mechanisms like peroxisome proliferation that may not be relevant to workers.

Importantly, available epi studies. The human studies is looking at the workers do not confirm an increased risk of cancer in exposed humans. Do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest, does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

So very consistent with what DuPont was thinking internally what it believed when the third-party ACGIH very

respected comes out and they're saying essentially the same thing.

All right. And you're going to see -- they mentioned, I think it might have been Mr. Tapley mentioned internally what was DuPont saying internally about C-8 and rating it, and I talked about that in the 1988 confidential internal memo looking at C-8.

What did they say?

So this AEL committee that we talked about, they reviewed it. They looked at the different doses, they looked at -- again, some of these studies that were referred to had two or four or many different doses. And, yes, did they see some harm in the mega, mega, mega doses? Yes. Was there just some mega dose where they didn't see harm? Yes.

So they found the no effect level. The AEL would result in a thousand fold safety factor. A thousand fold safety factor; therefore, they didn't change the AEL. This is one of the times they want back, here's a new piece of data. Did they ignore it? No. They took it to the experts at Haskell, said what does this mean. It means we still have a thousand fold safety factor before any harm was seen in animals. We concluded there was no significant health hazard. Our AEL is protected.

They talked about the monkey study. So here's Haskell Labs. Did they look at that? Yes. Haskell Labs, '99, AEL

committee notes. You're going to hear about all the studies that were done from the first rat study between those and going forward looking at this mechanism why did it cause these tumors? How did it cause these tumors? Can that happen in humans? And they got more and more and more information that, no, it's because of this peroxisome proliferation it doesn't happen in humans.

And so the monkey study, part of the reason the monkey study was done was do we see the same hormonal changes in the monkeys, a primate, that we did in the rats? And you're going to see the conclusion was no.

But here's C-8 being reviewed by the special AEL meeting. They're talking about the monkey study. No clinical signs of toxicity were seen in the lower two doses. No clinical signs of toxicity.

So did the higher ones have some issues? Yes. But they found a no effect level in a primate. No hormonal changes were seen. The blood level of C-8 quickly reached a plateau, a steady state, and then it quickly reduced after the dosing stuff.

Even if it's considered compound related, the current AEL provides a 2000X safety factor. So they had to give the monkeys much more than they had to give the rats to find an effect. And even from the lowest effect level, DuPont already had a 2000X safety factor.

And the conclusion these -- all these studies, they're promptly given to the government agencies, the monkey study is published. The conclusion, the effects that have been associated with the development of pancreatic and testicular toxicity in the rats were not, were not observed. They weren't seeing the same things in a primate. That's the real purpose of why it was done. That's the conclusion of it.

And what were these people in the industry saying behind closed doors? I mean, you've heard that 3M makes it, DuPont uses it. He talks -- counsel talked about Miteni which was another manufacturer. They were actually the biggest, manufacturer in Europe in Italy. And they have a meeting -- this is in D680, Miteni talking about a 2004 meeting with 3M and DuPont. 3M has got a slew of people there, DuPont and Dr. Costa, the Miteni occupational health physician, M.D.

What are they saying? It's a carcinogen in rats but not in primates and humans. They're not talking about it being a human carcinogen.

It's like ACGIH. Yes, it causes it in rats but not in humans. That's what the industry, that's what these people were saying behind closed doors not in a document meant for this litigation or any other litigation.

So you're going to have the underlying documents to keep these things in context.

All right. I want to switch topics because counsel

mentioned about monitoring the employees, and that's right. In fact, you're going to see, ladies and gentlemen, that they did what I think is probably logical. What you'll see is they looked at it both ways. DuPont looked at the most highly exposed people at its plant, the people that were working in the Teflon division, the people who had the twenty thousand and ten thousand and five thousand parts per billion in their blood. They looked at them and they said are we -- and they had Dr. Powell -- seeing any health problems in these people? No, none.

Okay. What about let's look at it the other way. We've got a big plant, 2,000 employees, a lot of things going on here. Do we see any disease at all at the plant? Yeah, we do. We have 2,000 people. I mean, kidney cancer is one of the top 10 cancers for both men and women across the country. So counsel referred to, well, they had a few cases of kidney cancer at the plant. Okay, yes, that's true.

What do they do? Did they ignore it? No, they followed up on it.

You're going to see -- and Dr. Playtis was involved with this. You're going to see they had documents. They went back and looked, they had a cancer registry. And, again, we've redacted the names for personal confidentiality, but for every one of those people they went back and looked, they said were they a smoker? Yeah, forty-one years. So there were other

risk factors that explained why they got it.

But maybe more importantly for our purposes, where did they work? Where did they work? Is this one of the people that was down there with the teaspoon getting the powder out of the kegs? No. Utility pole, nylon, nylon, filaments. They were making the fishing line. Mechanical. Not a single day in Teflon.

And you're going to hear from Dr. Playtis they went back and looked at each one of these people and none did work in Teflon and had all these other risk factors for kidney cancer.

So keep things in context. Wait until you hear all the evidence on it.

I want to switch topics again because you're going to have no doubt in your mind based on the documents of what DuPont thought a safe blood level was.

We started with my fancy little chart over here, but in terms of what DuPont believed a safe level was and why.

So here's an e-mail from Dr. Playtis, Tony Playtis, and somebody from a different plant, a different DuPont plant is running to Dr. Playtis saying, hey, we've done some blood testing of our employees over at this other plant. We've got test results of 1,500, 3,000, 5,700 parts per billion of C-8. Are these high or low? We're wondering.

Dr. Playtis writes back, sorry, I've been on vacation, but blood levels higher than 50,000 parts per billion have been

recorded in humans with no observed health effects.

So, I mean, he's referring back to these 3M 71, and here we see 51 and what DuPont believed at the relevant time.

What did they know? 21,000, 51,000, 71,000, no health effect.

And why did they believe that? What were third parties saying? Let's start checking into some of these third parties.

So we've talked a little bit about NIOSH, the National Institute for Occupational Safety and Health. And, you know, they're the federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. That's their bylaws, that's their goal, that's their corporate statement. They're part of the Centers for Disease Control, and their primary office is right down the road in Cincinnati.

But here's D10, and it's a health hazard evaluation done for the union over at 3M's plant. And who writes it? This is by Dr. Page, MD, MPH, master of public health. She's the medical officer over there, a very smart lady. Hazard evaluations is what she does.

What year is this? Let's look at that. 2001. So let's get that up there so we don't forget about it. In 2001 another third-party, NIOSH. Where are they looking? They're looking at the 3M plant. 5,000 employees. The longest used since back in the '40s, the most highly exposed, multiples of what the

Washington Works people had.

They're responding to the union. What did the union say? The union request said that employees had elevated blood fluoride levels. Okay. What about injuries? Was the union who's representing these employees claiming people were injured? No. No health effects were noted. They were just concerned, interested, as DuPont was. Why is this stuff sticking around, this persistence issue? Nobody is being hurt by it by everything we know. There's no scientific data that anybody is being hurt, but it's sticking around.

So they write to NIOSH. They talk about the history, that they've been using it since the '40s. They talk about the half-life. So I don't want to dwell on this too much, but I think, again, context.

So C-8 has an estimated half-life of 18 to 24 months, about two years. So half-life, kind of as described, it's the time for half of it to go away. But in people it's two years. Not a million years, the half-life.

So the testimony will be that after about 10 years, your level will go down in the background. It doesn't stick around in your body for a million years. It sticks around for a while, but it's essentially gone in 10 years.

So, again, the environment versus people. We're here to talk about people, and it gets out of people.

But what's her bottom line? I don't want to spend too

much time on this. 3M has extensive medical surveillance and industrial hygiene monitoring. 3M has conducted or sponsored numerous animal and human health studies.

Bottom line, exposure to C-8 and PFOS, which is another separate chemical, DuPont never made it, we're going to talk about that later. Exposure to PFOA at the levels encountered at 3M, the very highest levels, 70,000, have not been associated with adverse health effects, have not.

So when you're evaluating actual malice and whether DuPont consciously disregarded a great probability of substantial harm to people like the plaintiffs, you're going to see that they did not believe that and why, that they had third parties saying the same thing. In fact, you're going to see that, in addition to NIOSH's evaluation, 3M came out with documentation of an occupational limit value.

So basically what's a safe level in the employees in the blood? We're focused on blood. And what did they say? 5 parts per million in serum, in blood. So 5,000.

So here's what -- let's get back on safe levels or no effects.

3M, the maker of it, 5,000 parts per billion in the blood is not going to cause any problems. The best estimate of the level of a chemical substance in a fluid, blood, that if present even on a chronic long-term basis would not be expected to pose or correlate with a significant risk of adverse health

risk. Not even a risk. Not that it's substantially certain or a great probability of substantial harm. Not even a risk if you're below 5,000. That's what 3M is saying in 2000.

DuPont had this document, you're going to hear about it.

So in terms of whether they would have expected harm to somebody like the plaintiff, I mean, you're going to see that 3M has this 5,000 as a level that's not going to cause anything, and you're going to hear, you heard from counsel already, that down here you've got Mr. Abbott and Ms. Swartz at a very small fraction of that in terms of what DuPont should have expected, what it believed would cause harm.

THE COURT: I'll see you at sidebar. You may stand if you wish, ladies and gentlemen.

(The following proceeding was held at sidebar.)

THE COURT: I'm still worried about our time. You've got an hour and 10 minutes, and you've got two more people to speak.

MR. MACE: Aneca's is, I think, 8 minutes, and John is supposed to be 15.

THE COURT: She's not here to say that.

You have an objection.

MR. CONLIN: Yes, Your Honor. He started going through as he went down and, again, he said he's talking about the exposure and about what they knew. He compared it directly to the levels for Ms. Swartz and Mr. Abbott right there at the

bottom. That's totally improper, anything they might have said before about conduct that's about comparing what they did to these plaintiffs.

THE COURT: Two points and then I'll hear from you before I rule. I've let all this in before. And I know whether you agree on this or not doesn't matter, it's what I'm going to hold. The jurors, you know, this is -- if this were a pure negligence claim to start with, they'd be hearing all of this. None of these define the standard of care, but they could be evidence used to define the standard of care. That's why you can use them. But, you know, even if there were an EPA level, that doesn't -- unless the federal law expressly preempts state law, that's just some evidence, it's not the end all be all. That's number one. And I'm not sure the jurors are getting that.

Second thing, this is creative on your part; I'm going to give you a compliment. If I were sitting there listening to this cold, I'd be thinking unless they can prove conscious disregard, it's a defense verdict. Actually, it's no punitive damage verdict if they don't. It's not a defense verdict.

I think we need to clear -- you've strayed into saying they can't prove conscious disregard so much that I think they think that's the finding they have to make to get a verdict, and that isn't how the case is going to be tried so be aware of that.

MR. MACE: Okay. I will be.

THE COURT: I'm not going to correct it at this point, but I think we're headed in that direction. And you may not mean it that way, but they're going to be confused.

MR. MACE: Yeah, I'll try to remember when I introduce Aneca, I'll say that. I'll say the first issue you're going to decide is specific causation.

THE COURT: I'd be happy to tell the jurors they can consider all this when it comes to particularly conscious disregard, but none of these numbers are the defining -- this was consciously disregarded and this wasn't. There's no standard like that. This is a tort standard.

MR. CONLIN: I think we would request an instruction like that at this point because he's given so many of them.

MR. MACE: We object to that, Judge, because I'm really focused on what was known at the time, what was known up to 2011.

THE COURT: We've always done that, too. It goes to that issue, but that has more -- it has something to do with actual malice, but it really has more to do with negligence. And I'm letting it all in. That's not the issue.

MR. TAPLEY: Your Honor, if I could be heard for just a moment. This morning I anticipated the defense of the dose makes the poison. We're there now. As instructed by Your Honor, I went and cleared that up with the jury about what

they could use that information from, and now I think we've got a blurred up mess of the Leach settlement agreement, what other people set their standards at, what general causation is and what specific causation is, and I don't think the jury knows what to make of all this.

THE COURT: That's why we're going to have a five-week trial, too. I think they'll hear a lot more about this.

But the only -- you know, I'm truthfully a little bit reluctant to weigh in here because there's a lot of stuff out there. There's general causation, there's specific causation, and there's a negligence conclusion I've already made, but there's also some relevance to punitive damages. So at this point I'm going to let it go, but you know where my concerns are.

MR. MACE: I do. Once I offer up that, you know, I think once we get past opening statement when it's a witness specific thing, the witness will be specific to either conduct or causation, and we can keep it really clear. But we have to talk about everything in opening. I told them I'm only talking about conduct, and I'll try to make it clear in the transition.

THE COURT: Again, when it's relevant for one purpose but not another, the other side is entitled to a limiting instruction. That's not to say you can't use it, but what it can be used for. I mean, are we at that point?

MR. TAPLEY: I think we are.

MR. MACE: I object to that.

MR. CONLIN: I think we are.

MR. MACE: I've made it pretty clear.

THE COURT: I'm going to try to make this clear. I'm going to give them a little bit of explanation.

MR. TAPLEY: Thank you, Your Honor.

(The following proceedings were had in open court.)

THE COURT: I'm going to give you another instruction. Some numbers on the board that you will consider you'll decide how much to consider. That's your job as the fact finders, not mine. These are other standards that were used in the past, and you can use those for a couple of purposes but not for others. Remember the issue of general causation we've talked about, you cannot use it for that purpose. That fact is established by agreement of the parties. You can also consider this as to whether DuPont engaged in conscious disregard as that phrase has been told to you several times at this point, but for that purpose only. Again, there is no number above which somebody is in one category, below which someone is in another. These are all facts you will put together and from all the facts decide if that standard has been met when the plaintiffs make that claim against DuPont.

So with that, Mr. Mace, you may continue.

MR. MACE: Thank you, Your Honor.

All right. So now I want to switch topics on you, and

we can talk about blood level. Let's make sure we understand the difference between emissions, because they were talking about emissions from the plant, you've got something coming out of a pipe at the plant. You have something coming out of the plant, but neither of the plaintiffs claim they had a drone up at the smokestack so that's not exposures, that's emissions.

Then you have exposures, whatever does or doesn't get into the water, may have drank some of the water, but then it gets -- everybody crosses it differently so that's why the blood level is really the be all end all in terms of comparing things.

But I do want to talk about water, though, since it's been mentioned. So I'm going to switch and talk about water levels, but what is going to be hard for you and it's hard for me to keep straight is the difference in the numbers between water and blood. So just make sure when you're hearing numbers -- and we're going to try not to confuse you too much with all these numbers with the zeros, but are they talking blood or are they talking water? That's the difference so keep that in mind.

I'm going to switch and talk about water now, and one of the things you're going to see is what we already talked about and I'm going to flip here to water. I've already been told that I used the permanent marker and that I should try and use the dry erase.

So we're on a different chart. I told you we were going to get back to when they set the AEL, the acceptable exposure limits for employees. If you converted that to a drinking water exposure, it would have been 50, 5-0 parts per billion. So the AEL set back in 1979 for protection of the employees, if you translated that into what would that be in drinking water, 50, 5-0 parts per billion.

Now, you're going to see that a few years later DuPont did something else, something that very few companies do. In addition to setting a safe level for the employees, they were interested, they went out and did the spot sampling in the community and said what's a safe level in the community. They went ahead and set one of those. And you're going to see that it started with some discussions with people at Haskell back in the '80s. Here's D1430, 1987 Haskell. An acceptable level for community drinking water would be 5 parts per billion.

So then they're talking about community in the letter and this is what they're considering, this is what DuPont believes based on its own documents was safe levels. AEL 50, then they have this letter about community 5 parts per billion.

But you're going to see that a few years later they go ahead through the formal process because Haskell, this laboratory of experts, had a process for CEGs, community exposure guidelines, in addition to the AELs.

What the heck did those mean?

Well, it's right in the books. Here's D981, the community exposure guideline.

Expected to be without any effect, without any effect to members of the community during continuous 24-hour a day exposure based on the best available information from industrial experience, from animal tox studies, from controlled human studies and from epi findings. Bring it all together, continuous without any effect. All right. CEGs.

And you're going to see that basically what that is is if we took our -- before we had our safety margins with the backup buzzer so the AEL, they had a really healthy, you saw, 1,000, 2,000 level of safety factor. It's even farther away from the wall here. You can put the horseshoe in there. I mean, that thing is going to be buzzing and letting you know when you're at the opposite end of the end zone, you're not going to get anything. They put extra, extra safety factors for the community.

And what it did when it went through the process, D258, if you're total contributions from water, which is what the plaintiffs are claiming here, total contribution from water so this is the CEG, DuPont believed based on all this analysis that the community exposure guideline to be safe is 3 parts per billion. And that was in '92 that that came out. That was even before the ACGIH evaluation DuPont sets the CEG, community exposure guideline.

And, in terms of this rat study and the monkey study that was talked about, you're going to see, this is D2975, that when you look at the community safety factors, we're not talking about 800, 1,000, 2,000, it's a safety factor of 30,000 from over anything we've seen in the rat study. Thirty thousand. And 60,000 from anything seen in the monkey study.

So in terms of what DuPont believed -- and this is a document from back at the time -- they believed that's what their knowledge was, that looking at all this scientific data, we've got this uber protective, this very protective thing, and if we can protect to that, nobody is going to be harmed.

All right. What else happens? 3M, just like they did for the blood, 3M set a -- this is D1210, 2002. 3M set a lifetime drinking water health advisory. Lifetime. Your entire life. 3M medical department, four different doctors sign off on it. What did they say? It said DuPont is saying we're going to control ourselves to 3.

What did 3M say? Lifetime drinking water health advisory calculated to be to 70. For 3M, they're saying 70 is safe.

I used the shorthand safe. Let's see the actual language. Don't take my word for it.

A daily exposure likely to be without appreciable risk, not even a risk of bad effects, deleterious effects during a lifetime, 70. And this is in 2002.

So in terms of what DuPont believed, what were third parties saying, was it reasonable for DuPont to believe that?

Another document that DuPont had. It's over in the UK in 2007, and you'll hear this from Dr. Rickard because he was at Haskell. He was one of the scientists at Haskell.

What did the UK say when they looked at this? They had a review by their committee on toxicity. A maximum acceptable level of C-8 in drinking water is 10 parts per billion. So another third-party is saying 10 parts per billion is an acceptable level in drinking water.

This is all in the period of time of the conduct you're going to be evaluating which we're going to go over with you in a minute.

So in terms of what DuPont was setting, was that ignoring, disregarding health? Are you going to be able to evaluate were they the most protected? Were they the ones that put the most safety factors on? And when they got information from third parties, was it consistent with what they were doing? Were they saying, okay, yeah, we're more protective?

We saw the other document. If the government comes out with something higher, we're sticking with ours. Same thing with these other third parties. They were coming out with something higher. Didn't matter to DuPont. We're going to protect to this, 3.

The reason I bring this out and spend a few minutes on

it is because you saw the documents, but the plaintiffs don't claim -- understand this clearly. Neither Mrs. Swartz nor Mr. Abbott claim that they were exposed to more than 1 part per billion. They acknowledge that all their exposures were less than 1 part per billion.

MR. CONLIN: Your Honor?

THE COURT: Again, mixed message here. When it comes to general causation and the standard we talked about, the .05 parts per billion, that issue is established so no evidence can be admissible that would contradict that.

This might go to the issue of whether DuPont engaged in the conscious disregard. You can consider it for that purpose only, but not for the other.

MR. CONLIN: Thank you, Your Honor.

MR. MACE: So in terms of what DuPont believed and whether there was clear and convincing evidence that DuPont consciously disregarded a great probability of substantial harm to people like the plaintiff, DuPont believed 3 was very, very, very safe.

Other people, third-parties throughout these years were coming up with even higher numbers as being a safe number. So even if they would have known what the plaintiffs' blood levels were, and they didn't, it would have been far below what they said was a safe level.

All right. One of the bottom lines here, you're going

to see there was no scientific data throughout the period of time you're evaluating DuPont's conduct, no scientific data that said less than 1 part per billion in water would hurt anyone.

So some other things I think you want to keep in context as you listen to the evidence -- I'm not going to spend too much time on them, I know it's getting late in the day and I've got to get out of here. But keeping some things in context, counsel has raised the fact that in the 2000 time frame 3M announced we're getting out of the fluorochemicals business. But you've got to hear the whole story, because what was being said behind closed doors -- here's D4157, and here's an industry meeting behind closed doors, internal industry meeting. Who is there? Dyneon would be one of the users of C-8. Asahi/ICI, another user. Ausimont, another user. Miteni you heard about, the biggest manufacturer in Europe, DuPont and 3M, the biggest manufacturer in the U.S.

3M announced so here we are, it's that topic, 3M announced they're phasing out of their perfluoro octonyl chemistry business which includes PFOS, that other chemical that this plant never used, never made; DuPont never used, never made. And they produced it through a certain type of electrochemical fluorination that's different than the way when DuPont later did its plan, it used a different process, and we're going to hear about that. But they have 10 million man

years of exposure data. 3M has 10 million man years of exposure data which does not indicate any impact on human health.

So behind closed doors is 3M saying, hey, guys, you know, we've been making this stuff a while and I know you guys like using it but, boy, we've got all these problems with it, we're just getting out of it? They said the opposite. We've got all this data for all these years and it's not impacting anybody's health.

So why are they getting out? Why are they getting out of the business?

3M was not so much concerned about their products but, rather, with the impurities, the residuals because of the way they made C-8 so they began focusing on removing the residuals and the corporation requested resources to find alternatives.

There are, indeed, research and development, and they said it's going to take four to five years to do that so the business decided it was too long to wait.

Then it says PFOS, this other chemical that this plant never even used, never made, that was their major concern. We're going to phase out the PFOS production. But since it's part of this same plant, we're just getting out of all of this chemical substance industry.

So what's the reaction of these other people? What did Miteni say? And DuPont is at this meeting. Miteni, we've got

no plans to stop producing. We have no knowledge and haven't seen any information suggesting a reason to stop. We think 3M's decision on this PFOS was extrapolated to C-8 without supporting data.

So what happened behind closed doors, you have to hear the whole story, not soundbites.

Similarly, you heard about Mr. Reilly. So you were shown some e-mails from Bernard Reilly, an in-house lawyer in 2000, and part of the e-mail -- I know people can't show everything. We knew the material they sold us, a surfactant, also is very persistent and gets into blood, but so far no signs it's hurt anyone.

You're going to see that consistent statement no matter whose document you're looking at. It hasn't hurt anybody. Even Mr. Reilly.

They showed you an e-mail from the following year from Mr. Reilly. This is 563, P1.563. Mr. Reilly, 2001. The good news, it's been used for over three decades and does not seem to have impacted anyone's health. At very high doses we know it kills monkeys, but nobody has been hurt by this.

Three decades internally, that's what he's writing to an army buddy.

John Bowman -- and remember these lawyers, ladies and gentlemen, that's their job. Mr. Bowman is a litigation attorney in-house. Mr. Reilly was an in-house environmental

attorney. Mr. Bowman was an in-house litigation attorney so his job is to stay up at night wondering when is the next time we're going to get sued regardless of whether there's a basis for it or not. We don't want to have to deal with lawsuits. He's worried about things like that.

So what does he say? They showed you this e-mail, but my gut tells me he's worried about public perception. My gut tells me the biopersistence issue -- not that we're hurting people. The biopersistence, just the fact it stays in your body for a while, that's going to kill us because of an overwhelming public attitude that they think biopersistence is harmful. Persistence alone is not a harmful effect. In fact, I think you're going to hear the plaintiffs' main liability expert admit that to you on the stand, that the mere presence of it in the body is not a harmful effect. But it's concern about biopersistence.

Read these in context, please. You'll have the whole documents to look at.

Another one that they showed you was this 1984 memo, and this is D694. They showed you this paragraph down here about -- well, actually, they didn't even show you the document. They just showed you a little blurb on the document.

Consensus reached the issue which would decide further action is one of corporate image and corporate liability. Liability is defined as incremental liability. From this point

on if we do nothing, we are already liable for the past 32 years of operation.

All right? And the next sentence, a corporate image discussion centered around perceived diligence versus our policies if we elected to stop work.

They're already taking a lot of action, some of which we talked about. But if they would have stopped doing anything, that's what the concern was. But let's not lose sight of the context because right up above there, two paragraphs, there was the very first consensus that C-8, based on all the information available within the company and from 3M, does not pose a health hazard at low chronic exposure.

So please, please, look at the whole documents when you retire.

And in this same time frame -- we saw that was '84. Here's a document from -- they showed you this one, I think, but not this part. '84, recommendations. This is D1970. No known adverse health effects at the current levels. Potential liability through what? Through unjustified claims. You can still get sued for things. It's still a distraction. It's something that you have to spend money on to defend a lawsuit. So you don't want any lawsuits, but they're thinking about these things.

30 years of experience, low probability of liability losses. So please do not -- I think they've told you, don't do

soundbite justice. Read through the documents, look at them in context.

Here's one in the context in terms of these emissions. This is the number I was trying to remember before.

So they do, they look. I mean, you know, it's not ignoring things. It's looking at things. I mean, this is from '84 -- I'm sorry, '83 down here. And this is P1364 from 1983, and they say they're looking at the Ohio River.

So how much are we forecasting is going to go to the river? What's the volume of the river? It's massive, the amount of the Ohio River. So it's 1/18th of the AEL dose. This AEL dose that gets set way back when. With all these levels of safety factors, it's not even anywhere near that. It's .18, and it's less than 1 percent of AEL.

If they don't think that's going to cause harm in terms of what they believed at the time, why would they think that would cause harm?

You can consider those things.

All right. I want to switch topics and get back -- oh, I want to finish up the timeline.

They showed you several graphs about air and water emissions. Just be clear, please, that -- and they talked about the fact that Little Hocking is northeast of the plant and the primary wind direction was northeast of the plant and that's where the air emissions were going. We're all in

agreement on that.

The plaintiffs lived southwest of the plant. They lived upwind, not downwind. They are not claiming any air emissions.

So in terms of what DuPont's belief was, what it knew about where were these emissions going and what should they expect, you can consider that. The air emissions are not involved.

So let me finish up the timeline.

THE COURT: One moment. You may stand, if you wish, ladies and gentlemen. I'll see counsel at sidebar.

(The following proceeding was held at sidebar.)

MR. CONLIN: Your Honor, we're into the same problem again. We're talking about conscious disregard to the community and to the class of which these people are members. They're trying to differentiate the particular people in different spots where they are. It's the same thing about --

THE COURT: Well, as far as general causation, we all agree that's not the issue. You're talking about conduct.

MR. MACE: Which is how I introduced it.

MR. CONLIN: Corporate conduct put it in the air, that doesn't have anything to do with it. It does have to do with the claims.

THE COURT: Let me ask you this: This is a specific question. Air emissions and the water that the plaintiffs drank, is there going to be an expert who talks about -- I've

heard air emission testimony already and prevailing winds, all that stuff. Is your expert going -- you've got the C-8 records for the water district. Is anybody going to connect it to air emissions?

MR. CONLIN: They're going to talk about the air emissions. It also goes to corporate conduct. This air emission they were releasing was getting into the community and causing harm to the members of this community.

THE COURT: You said there's no claim of air emissions with these plaintiffs.

MR. MACE: I believe that's accurate. Dr. MacIntosh is their expert. I believe he admitted in their deposition he's not claiming air emissions for them. He's claiming water emissions.

MR. TAPLEY: I think there's a different part here, Your Honor.

THE COURT: Let's stay with this. You may say there's more to it than that, but let me first drill this down.

You agree that there's no claim of air emissions adding to the C-8 in the water in the districts where the plaintiffs received their drinking water.

MR. TAPLEY: I think that's fair, yes, Your Honor.

THE COURT: Now I'll hear you. We're done with that.

MR. TAPLEY: The larger point is this -- and I think the real critical point when we're talking about DuPont's

conscious disregard to people like the plaintiff, people like the plaintiffs equals the class, and what they did to any member of the class can be considered by this jury as to what they did to our plaintiffs.

THE COURT: We're in Mr. Mace's argument right here. I don't necessarily disagree with that. You can argue that, but he can argue the contrary.

MR. MACE: We do disagree. We think it's very clear in the law --

THE COURT: We'll clear up the legal issue, but for now I think we're going to leave it as is. Thank you.

MR. MACE: Thank you.

(The following proceedings were had in open court.)

THE COURT: Mr. Mace.

MR. MACE: Thank you, Your Honor.

So the point I just made was that with regard to the air emissions, I believe that you're going to hear from their own expert, Dr. MacIntosh does not contend that either of these plaintiffs were impacted by any air emissions. All right?

But let me move on because I really do want to finish up the timeline and get on with things here.

One of the things you're going to see is that in 2001 under this brown section here, in 2001 DuPont agreed to work with West Virginia to have some new additional analysis done and it was going to focus on two different things.

One is let's have a new group look at what is a safe level for C-8 and, two, we're going to look around the plant, start with one mile, start with two miles, we're going to look around the plant to see what levels of C-8 exist in the community.

So you're going to see as one of the documents P1.4847. It was a consent order in November of '01 between West Virginia Department of Environmental Protection, Health and Human Services, and it set out the task to be performed to determine whether, whether there has been an impact on human health and the environment, and it notes that C-8 is not identified as a hazardous substance, hazardous waste, or otherwise specifically regulated under state or federal. And, as part of this -- we're going to get to the bottom line of the results of it, but as part of this right from the beginning, as we have seen before, while they're looking at whether, whether there's any issue, DuPont agrees immediately to reduce emissions by 50 percent as part of this agreement. We're going to reduce emissions while you're looking at it.

So what happens when they look at it? You're going to see that there's something called the CATT Team, C-8 Assessment of Toxicity Team, D613, state of West Virginia, 2002.

You're going to see the caliber of the people on that team. Voting team members, three different scientists from U.S. EPA. Dee Ann Staats, the scientific Ph.D., Dr. Staats the

scientific adviser for the state of West Virginia. John Wheeler from the Agency for Toxic Substances Disease Registry. Unanimous vote. It required a unanimous vote kind of like yours.

What were they looking at for their screening level for water? They're looking at a level for a lifetime exposure equal to or less than no risk. No risk. No risk of bad effects, deleterious effects, is expected if you're below that.

What did they determine, third-party looking at this? For water, 150. 150 parts per billion.

So we have this evaluation in 2002 by the CATT Team, Ohio EPA is involved, U.S. EPA is involved, the West Virginia DEP is involved, the Department of Health and Human services is involved.

What do they say? CATT, 150. 150 parts per billion without any risk. Without any expected risk.

Now, as you can imagine we're going to talk about the controversy was continuing and, in fact, there were some neighbors of the plant that filed a lawsuit in 2001 so, as you can imagine, they didn't like it when this number came out so they start writing to West Virginia, they start writing to Ohio and their representatives. But you're going to see the responses unbeknownst to DuPont, no involvement whatsoever in it. Ohio EPA, their offices are like three blocks away from here. There's an interoffice communication. This is behind

closed doors at Ohio EPA. DuPont had no knowledge this was even going on, no involvement in it.

Memo to the director of the Ohio EPA in '02 looking at this CATT Team report, what did they do? Well, we assigned a toxicologist to review the report, its supporting documentation from West Virginia.

What do they conclude?

Third-party. The comparison showed that all samples of drinking water were below the screening level. As a result, no adverse health effects would be expected to occur in populations using the contaminated water as a source of drinking water.

Independent evaluation by Ohio EPA.

What about this CATT study? The screening levels developed by the CATT are reasonable, scientifically defensible and health protective. The process followed established U.S. EPA guidance. Third-party.

What did DuPont believe? What did it know? What were the third parties saying? Was it consistent with what DuPont knew?

Now, did DuPont raise its number up to 150? No. DuPont's theory is we're very conservative. We're setting a low number. If people come out with higher numbers, we're sticking with ours. If somebody came out with a lower number, okay, we'll look at it. If it's the government, we'll do it.

But if it's a higher number, we're not changing.

The letter-writing campaign continues with Ohio EPA '03, the next year. They write back let me assure you Ohio EPA has taken a very active role in the ongoing investigation of C-8 discharges in order to ensure the safety of Ohio citizens. The plaintiffs in this case are Ohio citizens.

That's what these agencies are charged with doing, protecting the public health.

Ohio EPA has concluded that the screening levels developed by CATT are scientifically defensible. The process followed established U.S. EPA guidance and provides the best basis we have to date for evaluating the safety of exposure to C-8. The methodology, the underlying, the assumptions provide an acceptable level of protection. The fact that the highest C-8 detected in any drinking water supplies is 35 times less than the standard provides an even greater level of assurance.

In summary Ohio EPA believes the work completed by CATT is scientifically defensible, the best basis we have to date to evaluate the safety of exposures. We have been and we continue to be actively engaged in the ongoing investigation of C-8. EPA will take all reasonable actions necessary to protect the health of Ohio citizens.

Conclusions of Ohio.

Similarly, West Virginia, they get letters. Your letter demonstrates a lack of understanding of the work we did and a

misrepresentation of the work.

They also support the work of the CATT Team.

So, as we wrap up the timeline, let's get on to, as I said, controversy continued and there was a lawsuit filed in 2001. It was a class action lawsuit against DuPont in 2001 with various allegations made, and you're going to hear that, you know, the litigation went on for about three years and DuPont -- you're going to see that DuPont genuinely wanted to resolve the debate about whether, whether C-8 had any human health effects. And both sides of the lawsuit in 2004 -- 2004 agreed to a settlement, and you're going to hear about some of the things that were agreed to in 2004. I'll list a couple of them for you.

DuPont agreed to fund an independent scientific study by three independent epidemiologists to determine whether -- very important word -- whether there was a link between C-8 and any human disease. And this was three people jointly chosen by the people representing the plaintiffs in the class action and DuPont. Independent scientists. And DuPont agreed as part of that to start filtering immediately the water in affected water districts, to put carbon filtration on it. So while they were looking, they put on carbon filtration.

Here's a picture of one of the plants to start filtering water.

Now, they reserved the right to stop filtering the water

because you'll see what they believed, that they were going to come back with no probable links. But while they're looking, we'll go ahead and filter the water while they're looking. And when they come back with no probable links, we get to stop filtering the water. But, in the meantime, we'll filter the water, we'll pay in an escrow fund for these people to go look at it. And they agreed to filter the water to non-detect. Not just down to 50, 70, any of these other numbers. To non-detect. And you're going to hear briefly that this work of the science panel, these independent scientists looking into this who had all the information, it took them seven years. Seven years. It wasn't an easy determination. It took them seven years. And, in the meantime, there was additional information that came out to DuPont.

THE COURT: One moment. You may stand if you wish, ladies and gentlemen. I'll see counsel at sidebar.

(The following proceeding was held at sidebar.)

THE COURT: I know where we're going with this. You basically made it sound like this was a really hard decision to make. It was a yes or a no and they said yes, and that's what the agreement said.

MR. CONLIN: Exactly, Your Honor. The idea that this was very hard to decide, I think at this point it would be important to inform the jury that as part of that settlement, they ended up conducting the biggest epidemiological study in

history.

THE COURT: I don't want to make that part of Mr. Mace's opening, but I am concerned that they just had this feel of it took them so long maybe they weren't sure or maybe it was a close call. It was a yes or a no. That's all there is to it so I am going to instruct them on that.

My courtroom deputy says your two co-parters are not going to finish. I've got to be gone by five. We can do it in the morning.

MR. MACE: Let me look -- yeah, they're not.

THE COURT: It's not the end of the world. We can do it in the morning.

MR. MACE: Okay.

THE COURT: Be aware at five I've got to get out of here. You don't have to rush. You can do it in the morning if that's better.

MR. MACE: Thank you, sir.

(The following proceedings were had in open court.)

THE COURT: You're going to hear a lot more about the science panel is my guess during the course of this trial, and the task they had as far as our case goes was a simple was there a probable link or not. It was a yes or a no. And that's what you'll hear about. They found yes with regard to kidney cancer and testicular cancer. So as far as the number of years or whether it was a hard decision, it was a yes or a

no. If it's yes, it brings us to where we are today so all you need to conclude is this was the study and that was the conclusion. It was a yes.

With that, you may proceed.

MR. MACE: Thank you, Your Honor. Just to be clear. I mean, we were going through the timeline about what DuPont knew and what it believed and when and why and what were third parties saying. So I'm using this to set up what comes out in 2012, but there's an agreement to do all this in 2004. DuPont agrees to do this filtration. You're going to hear it takes a while, obviously, to construct these plants and start the filtration, but it's operational in the water districts the plaintiffs are claiming by '06, completely C-8 free water being provided to the plaintiffs.

But more information comes out in the meantime in terms of evaluating DuPont's conduct because you're going to see and you're going to get to it that you're evaluating the conduct all the way from the '60s, '70s, '80s up to the 2011. That's the period, but talk about that later.

What else did they know up to 2011? There's just a few pieces I want to talk about today. One is the fact that there was a community study done. And opposing counsel talked about it briefly, but a Dr. Emmett from the University of Pennsylvania did a community C-8 study in Little Hocking which was northeast of the plant, got air emissions as well as water,

the highest exposed people near the plant. He did a community C-8 study there, public presentations about it at the high school in 2005. Who was involved with this? Oh, who funded it? Funded by the National Institutes of Health and the Environmental Justice Grant. Not DuPont's money, not the plaintiffs' money. Independent people. The had an advisory committee that included the local health department, the Ohio EPA had people there, the U.S. EPA had people there.

What about the blood levels here, the active blood levels? What are the median -- think about average, I guess, average -- I know that's hard with the gloss on these things.

Median C-8 levels in Little Hocking, general U.S. population 5 parts per billion in the blood. Little Hocking people, average median 340 parts per billion in their blood.

We'll spend more time on this during the trial, but they go through condition after condition. No relationship, no relationship, no relationship for all the different things page after page.

Counsel is right, it is not a cancer study. Health effects not fully addressed.

Is there a cancer risk? What do they say about that? We did not find toxic effects to the liver which always precede liver cancers in laboratory rats. So they recognize this. DuPont had nothing to do this.

Dr. Emmett from the University of Pennsylvania, he

recognized the same thing as DuPont was seeing. In all these studies, the liver is the first thing. We didn't find any toxic effects in the liver. Cancer rate is not increased in Washington County. No clusters. We're not seeing any clusters of cancers.

What's he say? No proof today of a cancer risk. Needs more study but no proof to date of a cancer risk.

So this is the Dr. Emmett community study. Another piece of information in 2005, the Emmett community study. And he publishes his results, he does public presentations, he publishes them. I think they showed you part of this. D2136, Dr. Emmett conclusion, no toxicity from PFOA was demonstrated. These are the measured end points. Other end points need to be addressed.

There were no limits on what he could look at. He had free reign to look at whatever he wanted. He chose what he chose. All the things he chose he couldn't find any toxicity, and we saw his comments on cancer. No clusters.

All right. What else happened in this same time frame? You're going to see that there was a second community study done a few years later, 2009, and you're going to see that DuPont had this document. Published study, and here it is. 2009, published in the Oxford University Press. It says Dr. Ericksen, Dr. Ericksen was doing a study. What's he conclude? Plasma concentrations of C-8 in the general Danish

population appear not to be associated with risk of prostate, bladder, pancreatic or liver cancer.

Mr. Mace, why are you showing me this? It's a population study over in Danish Finland.

Well, what he's doing, there were very few community studies so Emmett did one right by the plant, the highest exposed people, he didn't find anything.

What about Ericksen, what did he find? This is all information in terms of what DuPont knew, what it believed prior to 2012. And his result? Yeah, does not appear to be associated. Just so we're clear on the exposure levels, I mean, he's got a little bar chart there. They generally range between, you know, 1 and 16 parts per billion in the blood. The range, though, went up to 74 parts per billion for C-8.

So, again, in terms of what information DuPont had as it was evaluating C-8 prior to 2012, this was another piece of information in the equation. 2009, the Ericksen study.

So I told you that something else happened around this same time frame in 2009 and I mentioned it earlier, the Centers for Disease Control and Prevention, 2009. So this is their byline. This is what their mission statement is.

CDC protects peoples' health and safety by preventing and controlling diseases and injuries. That's the CDC's mission statement.

So what do they say?

Human health effects from exposure to low level -- low environmental levels of the C-8 are unknown.

They don't say this is causing all kinds of problems and DuPont's ignoring them. It's unknown.

What do they say about this persistence issue?

Finding measurable amounts of C-8 in the serum does not mean that the levels of C-8 cause an adverse health effect.

Listen carefully to the testimony. I think one of the early witnesses from the plaintiffs' side is going to acknowledge that.

All right. What else? What other information do we have? And are we ever going to get done with this timeline so we can get out of here?

So there were peer-reviewed papers coming out from others at this same time period, and one of them is D2335. And just so we know when it comes out, this is published in the Environmental Health Perspective, a peer-reviewed journal, January 2011. This is another piece of information DuPont had prior to 2012. To date no clear health effects of C-8 have been established and studies on the topic are sparse.

So we have piece after piece after piece of information. You know what DuPont believed. Let me get that up there. 2011 peer-reviewed paper.

And it's the following year, it's the following year in 2012 that the science panel report comes out, this study that

got commissioned back in '04. Their report finally comes out in 2012 so the timing-wise that's when that comes out.

And you're going to see, ladies and gentlemen, that was a real surprise to DuPont, a real surprise. And, once again, you're going to see that DuPont took action and it stopped using C-8 after that report came out.

You're also going to see, to finish the timeline, the plant's efforts to continue work with the West Virginia DEP in terms of the plant because the plant's located in West Virginia so West Virginia was following the plant, they had processes and procedures to make sure DuPont was doing the right thing at the plant. So they came up with a final decision and they talked about how again these facility discharges are regulated by the NPDES permits, administered by West Virginia, requires specific analysis, regulatory compliance, and they came up with a program that DuPont was required to follow at the plant, and this is their final decision after public comment that their remedy is protective of human health and the environment, overall protection of human health and the environment addresses the ability of an alternative to eliminate, reduce or control threats to public health and the environment.

So this is the state of West Virginia. They issued that in 2015 so the efforts continued past 2012 working with West Virginia.

Your Honor, can I approach with a timing question?

THE COURT: Yes. You may stand if you wish, ladies and gentlemen.

(The following proceeding was held at sidebar.)

THE COURT: Are you pretty much done?

MR. MACE: Yes, I'm almost done, but I'm about to turn it over and they're not going to get there.

THE COURT: I would suggest you finish up, and then if we break 10 minutes earlier -- here's comes Mr. Burlingame.

MR. BURLINGAME: It's just on the timing question.

THE COURT: He's given away your time while you weren't here. You should have come up and I would have listened to you.

MR. MACE: Judge, you're killing me.

THE COURT: I have to be out of here at five, exactly at five. How long is yours?

MR. BURLINGAME: Ms. Lasley's will be shorter than mine, Your Honor. She's got about 15.

MR. MACE: We can speak for her.

THE COURT: Ms. Lasley, you can wait there.

MR. BURLINGAME: Her's is shorter than mine. She said she can do that in about 15 minutes.

THE COURT: Here's the problem, you have 10 minutes to go still?

MR. MACE: It's on their topic. I'm going to introduce their topic.

THE COURT: I've got 20 people sitting in a classroom. I can't be late.

MR. MACE: We'll do it in the morning.

THE COURT: We'll finish up today. You want to do the introduction, and you probably want to do it in the morning.

MR. MACE: I would rather do it in the morning. It's introducing them.

MR. BURLINGAME: Thank you, Your Honor.

(The following proceedings were had in open court.)

THE COURT: Not a big problem, but there's one more piece, actually two more pieces. Not long, but not within 20 minutes of the defendant's closing argument. I told you we're going to keep to a schedule, and actually we're going to be a little early today. I don't like to do that either because we can waste some of your time, but if we start we won't finish before 5 o'clock.

Mr. Mace, are you ready to conclude your portion?

MR. MACE: Well, Your Honor, mine is an introduction of the other two.

THE COURT: We can do that in the morning. So we're going to break for the day. Again, I thank you for your service. I'm not going to go over the all of the warnings I gave you earlier today because I know you remember those, but please keep those in mind. Be back here tomorrow to start at 9:00 a.m. sharp.

Have a nice evening and, with that, we'll be in recess.

(Jury out at 4:45 p.m.)

(Proceedings concluded at 4:45 p.m.)

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C E R T I F I C A T E

I, Darla J. Coulter, do hereby certify that the foregoing is a true and correct transcript of the proceedings before the Honorable Edmund A. Sargus, Jr., Judge, in the United States District Court, Southern District of Ohio, Eastern Division, on the date indicated, reported by me in shorthand and transcribed by me or under my supervision.

s/Darla J. Coulter
Darla J. Coulter, RMR, CRR
Official Federal Court Reporter

January 22, 2020